THE EXPERIENCES OF WOMEN WHO HAVE USED THE SUB-DERMAL CONTRACEPTIVE IMPLANT (IMPLANON) AND THEIR REASONS FOR THE EARLY REMOVAL IN THE CAPE METROPOLE, WESTERN CAPE

BY

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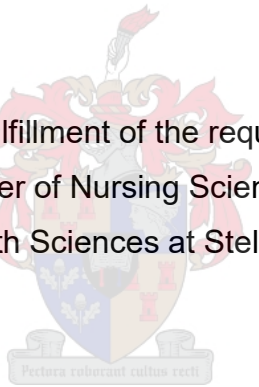

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Supervisor: Dr Talitha Crowley

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DECLARATION

By submitting this thesis electronically, I declare that the entirety of the work contained therein is my own, original work, that I am the sole author thereof (save to the extent explicitly otherwise stated), that reproduction and publication thereof by Stellenbosch University will not infringe any third-party rights and that I have not previously in its entirety or part submitted it for obtaining any qualification.

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ABSTRACT

Background

Many women of reproductive age still have unmet contraceptive needs, despite considerable increases in contraception coverage. The progestin-only implant (Implanon) releases hormones that prevent pregnancy for three years. After Implanon was introduced in 2014, there was a growing concern about the number of women who are returning for early removal, some within a few months of insertion.

Aim

The aim of the study was to explore the experiences of women regarding the use of the sub-dermal contraceptive implant (Implanon) and describe their reasons for early removal in the Cape Metropole, Western Cape.

Objectives

- To explore women's experiences on the use of the sub-dermal contraceptive implant (Implanon).
- To describe the reasons for the early removal of the sub-dermal contraceptive implant (Implanon).

Population and setting

The target population included all women from the age of eighteen (18) and above, who were requesting the removal of the Implanon before the recommended two and a half (2.5) to three (3) years of utilization, for any reason during the study period. The study was conducted at New Somerset Hospital and the Du Noon Community Health Centre.

Methodology

The study employed an exploratory-descriptive qualitative approach. Data was collected by using semi-structured individual in-depth interviews (face to face), conducted by the researcher. Eleven (11) participants, including a pilot interview participant, were interviewed. Data was analysed using content analysis. Ethics approval was obtained from the Stellenbosch University Health Research Ethics Committee and permission was obtained from the Western Cape Department of Health.

Findings

Five themes were identified: knowledge and understanding; physical and emotional changes after inserting Implanon; feelings and emotions; decision-making and support. In general, participants had a good understanding of the mechanism of action, the benefits and the risks

of using Implanon. Information about Implanon was mostly communicated by nurses. Negative feelings and emotions towards Implanon emanated from the physical and emotional changes participants experienced after inserting Implanon, which they perceived as being side-effects. In most instances, the inability to effectively manage or control these side-effects, coupled with the impact on their personal needs, led to the decision to remove the Implanon.

Conclusion and recommendations

Although the participants in this study regarded Implanon as a highly effective contraceptive method, unwanted side-effects and the apparent ineffective management of these side-effects by healthcare workers, deterred them from continuing its use.

Healthcare workers should perform a comprehensive assessment of clients before commencing Implanon. Pre-insertion and continuous counselling should empower women towards the management of side-effects, so they are better able to make an informed decision on discontinuation and transition to other options. This could increase the uptake and continuation of Implanon. Exploration of the experiences and attitudes of healthcare workers in rendering Implanon is recommended.

Key words: Implanon, experiences of women, sub-dermal contraceptive implant, early removal, reasons.

OPSOMMING

Agtergrond

Ten spyte van aansienlike toenames in voorbehoeddekking, word baie vroue in die voortplantings ouderdom se voorbehoed-behoeftes nog nie bevredigend voorsien nie. Die progesteroon-enigste inplantaat (Implanon) stel hormone vry wat drie jaar lank swangerskap voorkom. Nadat Implanon in 2014 bekendgestel is, was daar toenemende kommer oor die aantal vroue wat terugkeer vir die vroeë verwydering, sommige binne 'n paar maande na inplanting.

Doelwit

Die doel van die studie was om die ervarings van vroue met betrekking tot die gebruik van die sub-dermale voorbehoedingsinplantaat (Implanon), en hul redes vir vroeë verwydering in die Kaapse Metropool, Wes-Kaap, te ondersoek.

Doelstellings

- Om die ervarings van vroue oor die gebruik van die sub-dermale voorbehoedingsinplantaat (Implanon) te ondersoek.
- Om die redes vir die vroeë verwydering van die sub-dermale voorbehoedingsinplantaat (Implanon) te beskryf.

Populasie en omgewing

Die teikenpopulasie het alle vroue van agtien (18) en ouer ingesluit wat versoek het om die Implanon voor die drie (3) jaar van gebruik om die een of ander rede gedurende die studietydperk te verwyder. Die studie is in die New Somerset-hospitaal en die Du Noon Gemeenskapsgesondheidsentrum uitgevoer.

Metode

Die studie het 'n verkennende-beskrywende kwalitatiewe benadering gebruik. Data is deur middel van semi-gestruktureerde individuele in-diepte onderhoude (aangesig tot aangesig) deur die navorser ingesamel. Elf (11) deelnemers, insluitend die deelnemer wie aan die loodsonderhoud deelgeneem het, is ondervra. Data is geanaliseer met behulp van inhoudsanalise. Etiekgoedkeuring is van die Universiteit Stellenbosch se Etiekkomitee vir Gesondheidsnavorsing verkry en toestemming van die Wes-Kaapse Departement van Gesondheid.

Bevindings

Vyf temas is geïdentifiseer: kennis en begrip; fisiese en emosionele veranderinge na die inplasing van Implanon; gevoelens en emosies; besluitneming; en ondersteuning. Oor die algemeen het die deelnemers 'n goeie begrip gehad van die meganisme van werking, voordele en risiko's van Implanon. Inligting oor Implanon is meestal deur verpleegkundiges gekommunikeer. Negatiewe gevoelens en emosies teenoor Implanon spruit uit die fisiese en emosionele veranderinge wat die deelnemers ervaar het na die invoeging van Implanon, wat hulle as newe-effekte beskou het. In die meeste gevalle het die onvermoë om hierdie newe-effekte effektief te bestuur of te beheer, tesame met die impak op hul persoonlike behoeftes, tot die besluit om die Implanon te verwyder, gelei.

Slotsom en aanbevelings

Alhoewel die deelnemers aan hierdie studie Implanon as 'n uiters effektiewe voorbehoedmetode beskou het, het ongewenste newe-effekte en die oënskynlike oneffektiewe hantering van hierdie newe-effekte deur gesondheidsorgwerkers hulle daarvan weerhou om die gebruik daarvan voort te sit.

Gesondheidsorgwerkers moet 'n omvattende evaluering van kliënte doen voordat Implanon geïnisieer word. Voorinvoeging en deurlopende berading moet vroue bemagtig om newe-effekte te bestuur, en 'n ingeligte besluit te kan neem oor die staking en oorgang na ander opsies. Dit kan die opname en voortsetting van Implanon verhoog. 'n Ondersoek na ervarings en houdings van gesondheidsorgwerkers in die lewering van Implanon word aanbeveel.

Sleutelwoorde: Implanon, ervarings van vroue, sub-dermale inplantaat, vroeë verwydering, redes.

DEDICATION

I dedicate this piece of work to my beloved, late parents;

The love that you gave me has made to be the person that I am today.

Thank you so much.

Nontuthuzelo Rosebella

and

Velile Stanford Hlana.

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LIST OF ACRONYMS

CEU	- Clinical Effectiveness Unit
CI	- Calculation index
COC	- Combined oral contraceptive
CPR	- Contraception Prevalence Rate
DMPA-IM	- Depot medroxyprogesterone acetate-intra muscular
ECHO	- Evidence of Contraceptive Options and HIV Outcomes
ENG	- Etonogestrel
FP	- Family Planning
HCW	- Health Care Workers
HIV	- Human Immunodeficiency Virus
IUD	- Intra Uterine Device
LARC	- Long Acting Reversible Contraceptives
LNG	- Levonorgestrel
NDoH	- National Department of Health
NSP	- National Strategic Plan
SA	- South Africa
SADHS	- South African Demographic and Health Survey
STI	- Sexually Transmitted Disease
TB	- Tuberculosis
TPB	- Theory of Planned Behaviour
UK	- United Kingdom
USA	- United States of America
WHO	- World Health Organisation

CHAPTER 1: FOUNDATION OF THE STUDY

1.1 INTRODUCTION

Technology is improving and new approaches to family planning that can improve acceptance and prevent the discontinuation of contraceptives are being implemented. One such method is the long-acting reversible contraceptive implant called Implanon. Implanon is a single rod that measures 40 mm x 2 mm which has been developed by the Dutch Pharmaceutical Company in Organon and it is promoted worldwide (Isley, 2010:364). The plastic rod is infused with etonogestrel, a synthetic female hormone that is similar to progesterone.

The implant prevents pregnancy by inhibiting sperm motility, by thickening the cervical mucus and by thinning the lining of the endometrium. The Implanon is inserted sub-dermally, in the medial aspect of the non-dominant arm, six to eight centimetres (6 to 8 cm) above the elbow (World Health Organisation (WHO), 2015:110; Dreyer, 2017:69). Etonogestrel, is slowly released into the blood stream from the rod, over a period of about three years, after which time it is either removed or a new one is inserted (Dreyer, 2017:69).

The new South African national contraceptive policy, as cited in (Rees, Mullick, Pillay & Chersich, 2017:2), was launched in 2012 and thereafter, the implant contraceptive was introduced in 2014. However, there has been growing concern about the number of women who are returning for the early removal of the implant, some within a few months of insertion (Rees *et al.,* 2017:2). Statistically, the number of implants that have been inserted in the public sector has significantly decreased from an estimate of one hundred and seventy-five thousand (175 000) in 2014/2015 to fifty thousand (50 000) in 2016/2017 (Rees *et al.,* 2017:2). The above authors therefore point out that, regardless of the efficiency and the advantages of the Implanon, its purpose has not yet been achieved in South Africa.

1.2 BACKGROUND

Family Planning (FP) 2020 aims to make modern contraceptive methods accessible to an additional one hundred and twenty million (120mil) women by 2020 (Adeagbo, Mullick, Pillay, Chersich, Morroni, Naidoo, Pleaner & Rees, 2017:822). These initiatives are particularly pressing in sub-Saharan Africa, where most women of reproductive age still have unmet contraceptive needs, despite considerable increases in contraception coverage over the past two decades (Adeagbo *et al.,* 2017:822).

Implanon, also called Implanon NXT, has been available worldwide since 1999, targeting to expand the contraceptive method mix and to increase contraceptive effectiveness. Implanon

can only be inserted and removed by a trained person who is a registered nurse or a medical doctor (Isley, 2010:364).

It appears that the uptake of Implanon was high; however, it declined significantly over time. The reasons for this remain largely unexplored. Moreover, women are discontinuing the implant before the prescribed three (3) year period, despite its being considered as one of the most effective and most reliable contraceptive methods.

An estimate of eight hundred thousand (800 000) implants have been inserted in South Africa since the launch in February 2014. However, a year later, approximately five thousand (5 000) removals were recorded in 2015 (Pillay, Chersich, Morroni & Pleaner, 2017:827). Pillay *et al*. (2017:827) highlighted that the reasons for Implanon removals included side-effects such as bleeding, acne and mood changes.

The 2016 South African Demographic and Health Survey (SADHS) (2016:18) reported that thirty-nine percent (39%) of sexually active women have unmet family planning needs. Only four percent (4%) of women of child-bearing age were using Implanon in 2016, while the most frequently used methods remained injectable methods, accounting for twenty-five percent (25%) of contraception coverage (Adeagbo *et al.,* 2017:824).

1.3 RATIONALE

The Contraception Prevalence Rate (CPR) measures the existing practice of contraception (SADHS, 2016:19). CPR is outlined as the percentage of women aged between fifteen and forty-nine (15 and 49) years who are presently on family planning (SADHS, 2016:19). When comparing the SADHS statistics of 1998 with those of 2016, the amount of modern CPR being administered among married women in South Africa has essentially remained unchanged, being fifty-five percent (55%) and fifty-four percent (54%), respectively. Over the same time period, modern CPR usage among sexually active unmarried women has increased slightly to sixty-eight percent (68%) versus the previous level of sixty-four percent (64%) (Lince-Deroche, Harries, Mullick, Mulongo, Sinanovic, Pleaner, Morroni, Finhaber & Holele, 2016:96). This indicates a slight drop in the use of family planning.

Numerous studies have shown high rates of implant removals, globally and in South Africa. A research study conducted in the Netherlands showed that eight percent (8%) of women removed their Implanon within twelve (12) months of insertion (Teunissen, Grimm & Roumen, 2014:16). In the United States of America (USA), O'Neil-Callahan, Peipert, Zhao, Madden and Secura (2013:1087) reported that thirty-one percent (31%) of women who were using Implanon came in for early removals within twenty-four (24) months of insertion. Another

study, conducted in Australia found that forty-seven (47%) of women had their Implanon removed before the expiry period (Weisberg, Bateson, McGeechan & Mohapatra, 2014:8). This is similar to what has been reported in South Africa by Lince-Deroche *et al.* (2016:96).

A study conducted by Petro (2017:101) on patients with non-palpable and difficult contraceptive implant removals at New Somerset Hospital, highlighted that early removals of Implanon were due to reasons such as side-effects, changing to another contraceptive method, planning to conceive and concerns about the interaction between the Implanon and antiretroviral medication.

Although South Africa's implant removal rate is similar to global rates, removal is not cost-effective and strategies to reduce this rate should be investigated. The method itself and the equipment needed is costly, as it needs to be inserted and removed by professional nurses or by medical doctors, therefore early removal results in waste of costs.

The researcher, in her capacity as a midwife and a midwifery lecturer, has observed a high rate of discontinuation of Implanon by women of childbearing age in the Cape Metropole area, especially at the New Somerset Hospital and at the Du Noon Community Health Care Centre. This was observed by the researcher when she worked at the New Somerset Hospital in 2014 and anecdotal reports have also confirmed the early removal of Implanon at both these institutions. The high removal rate at the New Somerset Hospital has also been reported by Petro (2017:101). The researcher found it essential to explore the experiences of women who have used sub-dermal contraceptive implant (Implanon) as well as their reasons for early removal before the maturity period of three (3) years at the New Somerset Hospital and at the Du Noon Community Health Care Centre.

1.4 PROBLEM STATEMENT

In sub-Saharan Africa, the use of contraception among women aged between fifteen and forty-nine (15 to 49), married or in a union, more than doubled from 1990 to 2015, yet twenty-four percent (24%) of these women still have an unmet need for contraception (Adeagbo *et al.,* 2017:825). The South African government has introduced various methods of contraception with the aim of minimizing unwanted pregnancy and the high and increasing rate of abortion in our country (Adeagbo *et al.,* 2017:825). Estimates from the provinces of Gauteng and the North West suggest that as from December 2014, eight hundred and twenty (820) implants were removed, suggesting a possible nought point one percent (0.1%) removal rate in the early part of the rollout (Adeagbo *et al.,* 2017:825). An in-depth exploration of the reasons for the removal has not hitherto been undertaken in the Western Cape.

1.5 RESEARCH QUESTION

The research question that guided the study was: What are the experiences of women regarding the use of the sub-dermal contraceptive implant (Implanon) and their reasons for early removal in the Cape Metropole, Western Cape?

1.6 AIM OF THE STUDY

The aim of the study was to explore the experiences of women regarding the use of sub-dermal contraceptive implant (Implanon), and their reasons for early removal in the Cape Metropole, Western Cape.

1.7 OBJECTIVES OF THE STUDY

- To explore women's experiences on the use of the sub-dermal contraceptive implant (Implanon).
- To describe the reasons for the early removal of the sub-dermal contraceptive implant (Implanon).

1.8 RESEARCH METHODOLOGY

The current chapter contains a brief description of the methodology as applied in the study. A detailed report is provided in Chapter 3.

1.8.1 Research design

For this study, an exploratory qualitative descriptive (Grove, Burns & Gray, 2013:27) study was applied to explore the experiences of women who have used Implanon and their reasons for early removal.

1.8.2 Study setting

The study setting for this research was the New Somerset Hospital and the Du Noon Community Health Centre. The New Somerset Hospital operates in the Cape Town central health district of the Metro region in Green Point while the Du Noon Community Health Centre operates in the Western sub-district of the Southern/Western substructure.

1.8.3 Population and sampling

The target population to research the objectives of this study included all women from the age of eighteen (18) and above, who were requesting the removal of the Implanon before two and a half (2.5) to three (3) years of utilization, for various reasons, during the study period.

Individual interviews were conducted, and eleven (11) participants were interviewed until data saturation was reached.

1.8.4 Data collection tool

A semi-structured interview guide based on the objectives of the study was used by the researcher during the interviewing process (Appendix A).

1.8.5 Pilot interview

A pilot interview was conducted with one participant from the target population, to trial the practical aspects of the proposed main study and to correct any errors that might arise. Data from the pilot interview was included in the final analysis of the study. There were no adaptations to the interview guide after the pilot interview was conducted.

1.8.6 Trustworthiness

Lincoln and Cuba's (1985, in Polit & Beck, 2014:322-331) four criteria for developing trustworthiness in a qualitative study were used in this research study. The four criteria, credibility, dependability, conformability and transferability were applied, to ensure the trustworthiness of the study (Polit & Beck, 2014:322-331).

1.8.7 Data collection

The researcher collected the data with the use of individual interviews using an interview guide. Interviews were conducted in comfortable venues that were suitable for the participants. Interviews took place from the end of June to July 2019. Probing in the form of open-ended questions was done by the interviewer, seeking breadth and depth coverage of the topic.

1.8.8 Data analysis

Content analysis as highlighted by Erlingsson and Brysiewicz (2017:95) was applied in this study to analyse the data.

1.9 ETHICAL CONSIDERATIONS

Ethical approval was obtained from the Health Research Ethics Committee (HREC) of Stellenbosch University, S19/02/033 (Appendix E) and from the Department of Health of the Western Cape, WC_201904_012 Regional Director of the Cape Metropole Region, (Appendix E), for New Somerset Hospital, (Appendix F), and for Du Noon Community Health Care Centre (Appendix G). The study complied with the ethical principles of the Declaration of Helsinki that was released in 1964 by the World Medical Association (WMA) (Burns & Grove, 2011:105)

and updated in 2013. The researcher was guided by three fundamental principles; respect for persons, beneficence and justice. These, in turn, are based on human rights such as the right to self-determination, the right to privacy, the right to anonymity, the right to confidentiality, the right to fair treatment and the right to protection from discomfort and from harm.

1.9.1 The right to self-determination

The right to self-determination is based upon the ethical principle of respect for individuals (Grove *et al*., 2013:164). Participants were informed that participation in the study was voluntarily, and the researcher did not coercion participants. The researcher respected the participants' autonomy, by informing them about the nature and the purpose for the proposed study in the language of their choice and the researcher allowed them to decide individually whether to participate or not. In addition, participants had the right to withdraw from the study without any disadvantages (Grove *et al.,* 2013:164). Thus, the researcher requested informed individual consent, which participants signed before the data collection process, started. In addition, special permission was sought from the participants, specifically to record the interview.

1.9.2 The right to confidentiality and anonymity

The participants' right to anonymity and confidentiality was respected, and they were assured that the data obtained would be kept confidential. Participants voluntarily decided to participate in the study (Grove *et al.,* 2013:171-172). Pseudonyms such as Mrs. X and Lizzy were used to protect the participants' identities. Electronic notes and data were saved in a password protected file and only the researcher and the supervisor have access to the data. The files are being kept and stored for a maximum of five (5) years. Information was thus kept confidential (Grove *et al.,* 2013:172). Informed consent forms are being stored in separate storage to which only the researcher and the supervisor have access. Audio recordings were destroyed after transcription.

1.9.3 The right to protection from harm and discomfort

This relates to protecting the participants from any harm or from any discomfort that might be caused during a study (Brink, van der Walt & van Rensburg, 2018:157). The researcher was prepared to refer any participants who became distressed, but no participants became emotionally distressed during the interviews due to sharing their experiences.

1.10 DEFINITIONS

Contraception - The intentional prevention of conception using various devices, agents, drugs, sexual practices or surgical procedures (Dreyer, 2017:2).

Implants - These are small rods inserted under the skin of a woman's upper arm to release the hormone progestin slowly, to prevent pregnancy (Dreyer, 2017:68).

Implanon - A one-rod implant contraceptive inserted under the skin of a woman's upper arm, that is effective for three (3) years to prevent pregnancy, and it contains the hormone etonogestrel (Dreyer, 2017:69).

Early Implanon removal - Taking out of the Implanon by health professionals before the two and a half to three (2.5 to 3) years expiry period (Balogun, Olaomo, Adeniran & Fawole, 2014:4).

Experience - Is a representation and an understanding of a researcher or of a research subject's human experiences, choices, and options, and how these factors influence one's perception of knowledge (Given, 2009:36).

1.11 DURATION OF THE STUDY

The timeframe of the study is presented in Table 1.1 below.

Table 1.1: Study timeframe

Year	Month	Activity
2019	04 April	Approval from the Ethics Committee
2019	05 May	Provincial and institutional permission
2019	04 July	Pilot interview
2019	14 July to 23 September	Data collection and analysis
2019	September to November	Writing the thesis with a continuous review by the supervisor
2019	November	Technical and grammar editing
2019	December	Submission of the thesis

1.12 CHAPTER OUTLINE

Chapter 1: Foundation of the study.

Chapter 2: Literature review.

Chapter 3: Research methodology.

Chapter 4: Findings of the study.

Chapter 5: Discussions, conclusions and recommendations.

1.13 SIGNIFICANCE OF THE STUDY

To date there has been no qualitative study conducted on early Implanon removal and the reasons for this, among women who use Implanon at the New Somerset Hospital, and at the Du Noon Community Health Care Centre, in the Western Cape. Therefore, this study was aimed at exploring the experiences of women who have used sub-dermal implant (Implanon) and to describe their reasons for the early removal. The knowledge generated from this study may lead to an improvement in the uptake and continuation of Implanon, which is an effective, safe and long-term method of contraception.

Furthermore, effective use of contraceptive methods such as Implanon may reduce the risk of unplanned pregnancies and unsafe abortions. The information provided by the participants during the study, might also add to the existing body of knowledge in nursing science and can be used to increase public awareness regarding this method.

1.14 CONCLUSION

Early Implanon removal rates appear to be high worldwide and in South Africa, at the New Somerset Hospital and at hospitals within other areas in the region. Evidence supports the use of Implanon as an effective and a reliable method of preventing unplanned and unwanted pregnancies. It is therefore necessary for more research to be conducted on the experiences of women who have used sub-dermal implant (Implanon), and to explore ways to avoid early removals. The experiences of the women who removed the Implanon early were explored and this study may inform strategies to better support women's contraceptive needs.

Chapter 2 contains a detailed discussion of the literature review underlying the uptake or the use of the sub-dermal implant (Implanon), and the reasons for early removal

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

The literature review of a research report is an interpretative, organised and written presentation of what the researcher has read about the subject. The purpose of conducting a review of the literature is to discover the most recent, and the most relevant, information about a particular phenomenon (Gray, Grove & Sutherland, 2017:120). The literature identified include a background about the implementation of Implanon globally and in South Africa; its benefits and risks, the uptake and women's experiences and reasons for early removal. The literature review discusses research studies from developed and developing countries, including research studies conducted in South Africa.

Gray *et al*. (2017:252) stated that some qualitative researchers defer the literature review until after data collection and analysis has been done, to avoid bias during data collection, analysis and interpretation of the data. Therefore, a preliminary literature review was conducted prior to data collection and analysis which was followed by an in-depth review after analysis and interpretation were complete. The in-depth literature review follows in this chapter.

2.2 ELECTING AND REVIEWING THE LITERATURE

A literature review generates a picture of what is known and not known about the research problem (Burns & Grove, 2015:213). For this study, the following databases were consulted: Google Scholar, Medline, PubMed, Cochrane library and CINAHL.

The key words that were used to search for the literature comprised the following: Sub-dermal contraceptive implant, Implanon, reason for early removal and experiences of women.

The literature review includes articles published between 2009 and 2019. Seventy-four (74) articles were screened although not all of them were used, since many were not relevant to the study topic. Grey literature used for the study included the South African Contraceptive National Guidelines (2012), FP 2020 initiative, National Contraception and Fertility Planning Policy and Service Delivery Guidelines (2012), Millennium Developmental Goals Report (2015), Sustainable Developmental Goals Report (2015), National Health Act, 61 of 2003 and the Strategic Plan for Maternal, New-born, Child and Women's Health (2018). The literature search was performed from the end of February 2018 when the researcher started working on the study proposal until the thesis was handed in during December, 2019.

2.3 IMPLEMENTATION OF IMPLANON GLOBALLY AND IN SOUTH AFRICA

Implanon etonogestrel (ENG) was first approved for medical use in Indonesia in 1998. Thereafter, in 1999, the progesterone-implant (Implanon) was implemented in the United Kingdom (UK) and in Australia it was rolled-out in 2001. Implanon was approved for use in the United States in 2006 (Isley, 2010:364). In 2010, the WHO approved etonogestrel implants in more than ninety countries and it was used by about three million women globally. In most of the studies that were done globally as well as nationally, sub-dermal implants were found to be the most reliable and reversible forms of contraceptives (Dreyer, 2017:68; Guillebaud & MacGregor, 2013:752; Isley, 2010:365).

Implanon was introduced into SA in February 2014. According to the National Contraception Clinical Guidelines (NDoH, 2012a:32), Implanon must be inserted by a trained and experienced healthcare provider, to ensure proper insertion and to minimize the risk of nerve damage or misplacement. Insertion should be done using aseptic technique, to reduce the risk of infection. A local anaesthesia is applied to the upper arm around the area, before insertion, to relieve pain. A needle-like applicator is used to insert the rod under the skin. Implanon should be removed by an expert, after three years or it can be removed at any time if pregnancy is desired (Patel, 2014:132; Redebe, 2015:65).

The National Contraception Service Delivery guidelines of 2003 were consequently revised in 2012 and updated to accommodate changes in contraceptive technology. This meant the inclusion of Implanon, which had not been part of the contraception program in South Africa prior to 2014 (DoH, 2012:30).

2.4 THE BENEFITS AND THE RISKS OF IMPLANON

Some benefits and risks of Implanon were noted among the users. The benefits and risks of Implanon are based on the clinical guidelines of Implanon provided by the (Faculty of Sexual Reproductive Healthcare Clinical Effective Unit, 2014:8).

2.4.1 Benefits of Implanon

Implanon is a highly effective contraceptive method that is cost-effective over time and can help to improve dysmenorrhoea (CEU, 2014: 4). Provision of Implanon is therefore one of the strategies to prevent unintended pregnancy in women of childbearing age. Supporting this, Hubacher, Olawo, Manduku and Kiaria (2011:416), indicated that women needing longer protection from future pregnancy were more likely to select Implanon. Implanon is perceived as the best contraceptive method due to its safety and efficacy (Isley, 2010:366; Javed, Mehmood & Almas, 2016:99).

Implanon requires less frequent visits to a doctor because it lasts for three years. Pillay *et al.* (2017:816) echoed that less frequent visits was among the reasons why participants in their study chose Implanon.

Another benefit of Implanon is that there is no delay in returning to fertility after removal (Blumenthal, Voedisch & Gemzell-Danielsson, 2012:278). A return to a normal menstrual cycle is rapid after removal; therefore, an alternative form of contraception should be started immediately following removal of Implanon should a woman not want to become pregnant (Isley, 2010:365).

2.4.2 Risks of Implanon

The side-effects of Implanon include local reactions, although this is not common. Common side-effects of hormonal contraceptives are acne, headaches, mood changes, weight gain, breast tenderness, loss of libido and abdominal pain. There is, however, limited evidence of a direct cause-and-effect relationship between the use of Implanon and these side-effects. The most common side-effects are a change in the menstrual bleeding pattern. This could include amenorrhoea (one (1) in five (5) women), irregular bleeding (three (3) in five (5) women) or frequent/prolonged bleeding (one (1) in five (5) women). Studies show that fifty percent (50%) of women with frequent/prolonged bleeding experience an improvement in symptoms after three months (Faculty of Sexual Reproductive Healthcare Clinical Effective Unit, 2014:8).

Apart from the side-effects, there are also risks associated with the insertion and removal of Implanon. These include non-insertion, deep insertion, nerve or vascular injury and other complications such as bent or fractured implants. Non-insertion takes place when the rod is left in the applicator during insertion. Therefore, it is necessary for the healthcare worker to check that the needle is fully retracted after the procedure and that the skin in the area of the insertion must be palpated (DoH, 2012:33).

Deep insertion is one of the common risks experienced by clients. It is stated in the Medical Eligibility Criteria for Contraceptive use (WHO, 2015:8) that when Implanon is inserted correctly, it must be situated sub-dermally, just under the skin. It is assumed that significant migration of the implant occurs when an implant has been incorrectly inserted. Therefore, experienced and trained healthcare workers are the only people permitted to insert and remove Implanon.

There have been incidents of nerve injury and neuropathy (weakness, numbness and pain from nerve damage, usually in the hands and feet) that are associated with the insertion and

removal of Implanon. The evidence has shown that this transpires when inserting Implanon too deeply into the tissue, instead of inserting it in the skin (WHO, 2015:8).

Consequently, it is recommended that the Implanon should be inserted on the inner side of the upper arm, eight to ten centimetres (8 to 10 cm) above the medial epicondyle of humerus , to avoid interference with the large blood vessels and nerves that lie deeper in the connective tissue between the bicep and triceps muscles (Patel, 2014:136).

Nicole, Pritt, Alison, Noris & Berlan (2015:1) conducted a systemic review of studies around the world about peripheral nerve injuries that are associated with the sub-dermal implant insertion. Ten studies were reviewed, and twelve patient cases were analysed where nerve injuries were reported. One nerve injury ensued from insertion of Implanon and the other eleven resulted from the method of removal of Implanon.

Bent or fractured Implanons have been noted during insertions and removals. This is mainly associated with a fault from the manufacturer. Therefore, the length of the excised implant should be checked during removal, to ensure that the entire device is removed Medical Eligibility Criteria for Contraception on (WHO, 2015:8).

2.4.3 Guidelines for the management of bleeding caused by Implanon

Since changes in menstrual bleeding patterns is one of the most often reported side-effects of Implanon, Pearson, Stewart and Bateson (2017:105) provided best practice guidelines for the management of bleeding caused by Implanon.

Firstly, they emphasised the importance of educating and informing women commencing Implanon on the expected changes in bleeding patterns. Explaining these bleeding changes, including an explanation that amenorrhoea is safe and convenient, may improve continuation for some women. The women must be encouraged to return for review if they are experiencing problems with bleeding.

Management of bleeding requires exclusion of other causes such as infection, interacting medications and gynaecological pathology. If there are no contraindications, a woman with problems or bleeding must be offered the combined hormonal contraceptive pill continuously or for the duration of implant use (Pearson *et al*., 2017:105).

2.5 SUB-DERMAL IMPLANT (IMPLANON) USE OR UPTAKE

The uptake of Implanon has been explored internationally and in South Africa. The contraceptive implant continuation rate and the reasons for the discontinuation were explored by Harvey, Seib and Lucke (2009:3) in Queensland, Australia. Their findings showed that the

continuation rate at six (6) months was ninety-four percent (94%), and at a year, the rate was seventy-four percent (74%) and at (2) years fifty percent (50%).

Glasier, Scorer and Bigrigg (2010:213) examined the medical record data to identify continuation rates for the contraceptive implant among wmen in the United Kingdom (UK). A combination of medical record data and mailed questionnaires was used for data analysis. An eighty-nine percent (89%) (N=246) continuation rate was noted at six (6) months, seventy-five percent (75%) (n= 207) at a year, fifty-nine percent (59%) (n=163) at two (2) years, and forty-seven percent (47%) (n=130) at two (2) years and nine (9) months.

The uptake of hormonal contraceptive implants in Zaria, Northern Nigeria, was explored by Madugu, Abdul, Bawa and Kolawole (2015:268) after the introduction of implants in their teaching hospital. Continuation rates for implant users were high among those who had used progesterone-based contraceptives before (such as pill, injectables and even implants). In this centre, an average of twenty-five percent (25%) of contraceptive implant users were found to fall within this category. It was stated that women with previous experience of using other contraceptives are more likely to continue using implants, even though they may experience side-effects.

Across the various studies reviewed here, it appears that less than fifty percent (50%) of women continued using Implanon for the full three years. This means that in general, not many women complete the full-time course, even though Implanon is effective.

In contrast, The Evidence for Contraceptive Options and HIV Outcomes (ECHO) Trial (2019) that was conducted in eSwatini (one site), Kenya (one site), South Africa (nine sites) and Zambia (one site), reported a high contraceptive continuation and retention rate (> 91%) among the contraceptive methods studied. These methods included DMPA-IM (Depo Provera), a copper Intra-Uterine Device (IUD) and Levonorgestrel (LNG) implant. The purpose of the trial was to compare HIV incidence amongst the three methods (Lancet-The ECHO Trial: 2019:3).

The trial began in December 2015 and concluded in October 2018. The results for that trial showed that women accepted the randomised method (women were randomly assigned to the three different contraceptive methods) and that contraceptive continuation and retention rates were very high across all the methods.

All three contraceptive methods were well tolerated, with less than four percent (4%) of the participants in any group reporting any serious adverse event and less than nine percent (9%) reporting adverse events resulting in method discontinuation.

The authors specifically stated that regular counselling, scheduled follow-up, on-site DMPA-IM administration, and clinical management of contraceptive side-effects contributed to the high rates of method continuation.

The study also showed lower HIV incident infections amongst women LNG implant acquired contraception compared with DMPA-IM and the copper IUD, although this was not significant. Another interesting result of this trial was that women assigned to DMPA-IM were less likely to remain on continuous treatment and slightly more likely to be lost to follow-up than those allocated to the other two (2) methods. These results show that the implant is an effective contraceptive method and that high continuation rates is possible with effective counselling and side-effects management.

According to Pillay *et al. (*2017:933), based on data reported by the District Health Information System, the estimated number of insertions of Implanon was in the range of one hundred and seventy-six thousand (176 000) to as high as nine hundred thousand (900 000) in the year after launch here in South Africa.

This shows a tremendously high uptake and could have been caused by the fact that the implant was the first new contraceptive method introduced in twenty (20) years. Currently, we do not have any recorded data in South Africa on how many women discontinue Implanon before the three (3) year period.

2.6 CONTRACEPTIVE POLICIES AND GUIDELINES

It is stated by Lince-Deroche *et al.* (2016:95) that South Africa's laws, policies and guidelines on contraceptive service provision in the public sector are advanced and broad, and endorse integrated, rights-based service delivery.

The New National Adolescent Sexual and Reproductive Health and Rights Framework Strategy (2014-2019) and the Strategic Plan for Maternal, New-born, Child and Women's Health and Nutrition in South Africa (2012-2016), Child and Women's Health and Nutrition in South Africa (2017), are generally supportive of adolescents' and women's rights and access to health services and specifically acknowledge the challenges faced by young women in accessing sexual and reproductive health services (Lince-Deroche *et al.,* 2016:95). According to South African law, anyone who is twelve (12) years and older, has the right to receive contraception without consent from a parent.

2.6.1 National Contraception and Fertility Planning Policy and Service Delivery Guidelines

In the National Contraceptive and Fertility Planning Policy and Service Delivery Guidelines (NDoH, 2012a:17), statistics have shown that contraceptive use is relatively high with an estimated sixty-five percent (65%) of sexually active women between the ages of fifteen (15) and forty-nine (49) using a modern contraceptive method. This includes the use of Implanon.

Hatcher and Trussell (2014:420) describe modern contraceptive methods as products or medical procedures that interfere with reproduction arising from acts of sexual intercourse. The examples of modern methods include; male and female sterilisation, injectables, IUDs, contraceptive pills, implants, male and female condoms and emergency contraception (Hatcher & Trussell, 2014:421).

2.6.1.1 Contraceptive methods currently available in South Africa

According to the National Contraceptive and Fertility Planning Policy and Service Delivery Guidelines (2012), there are several contraceptive options available for women. Women are free to choose between any of these methods and they should be provided with information, so that they can make an informed choice.

Table 2.1 below illustrates the forms of contraceptives that are available and used in South Africa, with their indications, contra-indications and key benefits.

Table 2.1 Contraceptive options available in South Africa (National Contraceptive Guidelines (NDoH, 2012).

Method	Mechanism of Action	Key Benefits
Male condom	Physical barrier. Short acting and reversible.	Provides protection against pregnancy and most STI's. Easily obtainable and cheap.
Female condom	Physical barrier that is short acting and reversible.	Provides pregnancy against pregnancy and most STIs. Relatively inexpensive and non-hormonal.
Combined oral hormonal contraception (COC)	Prevents ovulation. Decreases sperm penetrability and endometrium receptivity. Short acting and reversible.	Decreases epithelial ovarian and endometrium cancer.
Progestogen – only oral contraceptives	Decreases sperm penetrability and endometrium receptivity. Short acting and reversible.	Low thromboembolic effect. Positive effect on bleeding volume. Suitable for breastfeeding women.
Progestogen long-acting injectables	Prevents ovulation. Decreases sperm penetrability and endometrium receptivity. Long acting, reversible.	Protective effect on epithelial ovarian and endometrial cancer. Reversible but with some delay.
Sub-dermal progesterone Implant	Long acting reversible. Prevents ovulation. Decreases sperm penetrability and endometrium receptivity.	High continuation rate. No estrogenic contraindications or side-effects. Rapid return to fertility.
Intrauterine contraceptive: copper containing	Long acting reversible. Inflammatory reaction in endometrium.	Highly effective and cost effective. Non-hormonal. Rapid return to fertility.
Intrauterine contraceptive Levonorgestrel Containing	Long acting, reversible. Changes the composition of cervical mucus. High levels of progestogen render endometrium inactive.	Menstrual bleeding decreases by seventy-five percent (75%). Improves, dysmenorrhoea, endometriosis and hyperplasia.

2.6.1.2 Clinical assessment and screening

Every woman who commences a contraceptive method should have a comprehensive clinical assessment. Assessment that is vital before commencing contraceptives, according to National Contraceptives Clinical Guidelines (NDoH, 2012:8), includes the following:

- Taking a comprehensive personal medical history to avoid any drug interactions or complications due to illness.
- A discussion about the client's future fertility plans and a risk assessment.

- HIV counselling and testing and discussions related to risk and prevention.
- Sexual Transmitted Infections (STI) screening.
- Tuberculosis (TB) screening to avoid drug interactions that could be associated with contraceptives.
- Patient's blood pressure should be measured because hormonal contraceptives can interfere with blood pressure.
- Breast and cervical screening.

2.6.1.3 Drug interactions with Implanon

It is stated in the National Contraceptives Clinical Guidelines (NDoH, 2012a:15) that HIV and contraception intersect in several crucial ways. The WHO medical eligibility criteria (2015:4) for contraceptive medication, state that there are factors that might reduce the efficacy of the progesterone only implant. One of these factors is drug interactions.

In response to this, the National Strategic Plan (NSP) on HIV, Sexual Transmitted Infections and Tuberculosis (2017-2022) recommends that women should use dual protection (more than one contraceptive method e.g. the implant and condoms) to prevent pregnancy and spread of infections. The efficacy of Implanon may be reduced when given concurrently with certain antiretroviral drugs such as efavirenz and consequently, the use of Implanon is not recommended for women taking antiretroviral treatment containing efavirenz. Pillay *et al.* (2017:813) stated that healthcare providers require clarity on Implant use in women taking efavirenz. They noted in their study that even though levels of etonogestrel and contraceptive effectiveness are lowered in women using Implanon, their pregnancy rates are still lower when compared to those of other women using other contraceptives such as injectables.

2.7 EXPERIENCES OF WOMEN WHO HAVE USED IMPLANON

Qualitative and quantitative studies were conducted globally and nationally, to explore the experiences of women who have used Implanon, or other implants, as a form of contraception. A study that was conducted by Flore (2016:743) in Australia indicated that some participants were happy to not to have periods for three years, due to amenorrhoea caused by Implanon, while others did not seem to be comfortable with the idea of not having periods.

In a quantitative study conducted in Northern America, implant users were more satisfied with their contraceptive method compared with other methods such as pills and injectables; regardless of the side-effects, even when it was associated with unpredictable bleeding patterns (Nicole *et al*., 2015:337).

Hoggart and Newton (2013:636) conducted a qualitative study in the UK to learn about the experiences of women who requested early removal of implants. Some participants were frustrated by delays encountered after they had requested removal. They further mentioned that they were not sufficiently warned about all the possible side-effects. Similarly, a study by Mamo and Siyoum (2018:41) that was conducted to assess premature Implanon discontinuation and associated factors among Implanon user women in Ethiopia, expressed that most women reported that they were not satisfied with the contraceptive service provided. They complained that they were never counselled about the side-effects that they were experiencing. Supporting this, Nageso and Gebretsadik (2018:189) observed in their study that women who did not have enough information on contraceptives and their various side-effects, were more likely to remove Implanon early.

In a study by Flore (2016:743), it was revealed that some participants were happy with the cost-effectiveness of Implanon, which would last for three years. This study was conducted in Australia where women pay for contraceptive services, including the insertion of Implanon. However, a few women were not happy with the added costs of sanitary pads and tampons that were caused by heavy bleeding, a side-effect of Implanon.

A qualitative study that was conducted in South Africa by Potgieter, Kapp and Coetzee (2018:1) to explore women's' knowledge, attitudes and beliefs regarding Implanon, found that there was confusion among women about the harm and benefits of using Implanon. Women reported that they had not received enough counselling about Implanon and that this had led to reluctance to choose it as a contraceptive option. It was evident that perceptions of the adverse effects of Implanon contributed to their fears and confusion about this method.

2.8 REASONS FOR THE EARLY REMOVAL OF THE IMPLANON

The removal of a contraceptive occurs when a woman no longer needs utilization, or for other reasons, such as a lack of information or a lack of counselling about the side-effects of the method (Staveteig, Mallick & Winter, 2015:18). There are several reasons mentioned in the literature as to why women have removed the sub-dermal contraceptive implant (Implanon). Some of these reasons are briefly discussed below.

2.8.1 Method-related reasons

Side-effects, myths, negative perceptions and a lack of counselling were among the reasons noted in the literature, for the early removal of an Implanon. In a qualitative study done by Hoggart and Newton (2013:196) in the UK, on the early removal of the implants amongst women between the ages of sixteen (16) and twenty-two (22) years, side-effects such as

irregular bleeding, weight gain, mood changes, acne and pain at the insertion site, were highlighted as some of the reasons for the early removal.

Balogun *et al*. (2014:1) reported that the high discontinuation rate of Implanon in a study in Nigeria was due to side-effects such as bleeding irregularities, acne, mood changes and the desire to fall pregnant. In general, the discontinuation of Implanon is mostly associated with bleeding pattern disruption (Harvey *et al.,* 2009:3; WHO, 2015:124).

Similarly, a study that was done in South Africa, East London by Mrwebi, Goon, Owolabi, Adeniyi, Seekoe and Ajayi (2018:1) found that side-effects such as heavy bleeding, severe headaches and a painful arm were the main reasons for the discontinuation of the Implanon. A recent study that was done in KwaZulu-Natal by Panday (2018:15) stated that experiencing changes in menstrual bleeding was the most frequent reason for Implanon removal. Considering this, pre-insertion counselling is vital for participants who are choosing Implanon.

In a quantitative study done in Northern Ethiopia by Birharne, Hagos and Fantahun (2015:3), it was found that more than ninety percent (90%) of the causes of early removal were linked to the unsatisfactory quality of the counselling on side-effects, a desire for pregnancy or a desire to use other methods.

Mamo and Siyoum (2018:41) in Ethiopia, mentioned that women who were not counselled about side-effects during Implanon insertions were 1.93 (95%Calculation Index (CI):1.27-2.93) times more likely to discontinue Implanon, as compared with those who were counselled.

Efforts are needed to address the myths and the misconceptions that are related to Implanon, as they are known to influence a woman's decision to remove the implant early. These myths include, for example, the belief that the Implanon implant sometimes vanishes inside the arm or the inability to fall pregnant after using it (Blumenthal, Voedisch & Gemzell-Danielsson, 2012:278).

2.8.2 Socio-demographic reasons

Age, religion, occupation, education and marital status are reported in the literature as contributory to socio-demographic reasons for the early removal of Implanon. Asaye, Nigussie and Ambaw (2018:7) mentioned that younger women had a higher rate of contraceptive discontinuation of various methods, especially those with no children. Women with one (1) or two (2) living children showed the odds of 0.49, compared with those with no children for contraceptive discontinuation. Women who did not intend to have more children were less likely to discontinue their contraceptive.

A qualitative study done in Ethiopia by Madugu *et al.* (2015:280) pointed out that partner pressure was also reported as one of the main reasons for early removal of Implanon. They indicated that this may be related to the failure to provide participatory pre-insertion counselling at the beginning or it may be partly due to the partner's desire to have more children.

Mutihir and Nyango (2010:463) echoed this by saying that it was the husband's disapproval of the Implanon that was an indication for early removal in six-point seven percent (6.7%) of clients.

Del Cerro, Diana, Cañadas, Mirasol, Santos, García and De Merlo (2018:136) examined the demographic profile, continuation rates and reasons for removal amongst Implanon users in two family planning clinics in Australia, one urban and one rural. The findings indicated a difference in experiences between women residing in a rural versus an urban setting. Women in the urban setting were more likely to request early Implanon removal. The authors state that the reason could be that they were more aware of the side-effects and that they had easier access to family planning services.

Peer and Morojele (2013:411) reported a low CPR of thirty-nine-point nine percent (39.9%) among sexually active women from the rural population in the Western Cape that could be due to limited access to contraceptive services.

Mellish, Oosthuizen and Paton (2011:160) and Pera and Van Tonder (2015:219) mentioned that some religious and cultural groups prefer abstinence and object to the use of any form contraception. The National Contraception and Fertility Planning Policy (NDoH, 2012a:50) encourages shared responsibility and participation among partners by way of involving men in contraception.

With the side-effects that include irregular bleeding, weight gain and acne, men's involvement is essential for the acceptance and understanding of the side-effects and to boost the self-esteem of the women. Contraceptive prevalence has been associated with cultural barriers such as a male partners' consent and approval (Pillay *et al.,* 2017:820).

2.9 THEORY OF PLANNED BEHAVIOUR

A theory that is often referred to in the literature in relation to contraceptive use decision-making, is the Theory of Planned Behaviour (TPB) (Ajzen, 1991, in Conner, 2010:2). The researcher therefore decided to discuss the key tenets of this theory in the literature review for this study.

The TPB was developed by a social psychologist, Icek Ajzen in 1985, to study human health behaviour. The TPB is a model that addresses behavioural action and attitudes involved with decision-making, while providing a framework for understanding a person's motivations for decision-making.

There are three main assumptions of the TPB:

- perceived behavioural control;
- behavioural beliefs; and
- subjective norms.

Perceived behaviour control is the perception of one's ability to perform an action. Behavioural beliefs form a person's attitude toward a behaviour. Subjective norms comprise the perception of how others will perceive a given action. Intention to act or behavioural intention results from the interplay of TPB's main assumptions and is the immediate antecedent to the actual behaviour (Conner, 2010:2).

The assumptions found in the TPB are congruent with the current study. Perceived behavioural control is the woman's decision-making capacity, her perception of her own autonomy and confidence to perform the behaviour. In the context of this study, it also includes her perception of access to contraceptive services for insertion and removal of Implanon.

Perceived behavioural control may also directly influence behaviour. This refers to the control that a person has over his/her behaviour that leads to performing a behaviour or taking an action.

Subjective norms are the beliefs about whether most people approve or disapprove of the behaviour. These people could be healthcare workers, friends, family members or partners. In this study, subjective norms would be a women's perception of whether her action to remove Implanon would be socially acceptable.

Attitudes towards the behaviour are the beliefs about the outcomes or attributes of performing the behaviour. Attitudes are generally influenced by a person's experiences, feelings and emotions. This refers to the women's perception of whether removing Implanon is the best or only option for her (a good thing).

Behaviour intention refers to the likelihood of performing a behaviour such as taking an action. In this case, in refers to the decision to remove Implanon and making an appointment to remove it. Figure 2.1 below illustrates the TPB as applied to the current study.

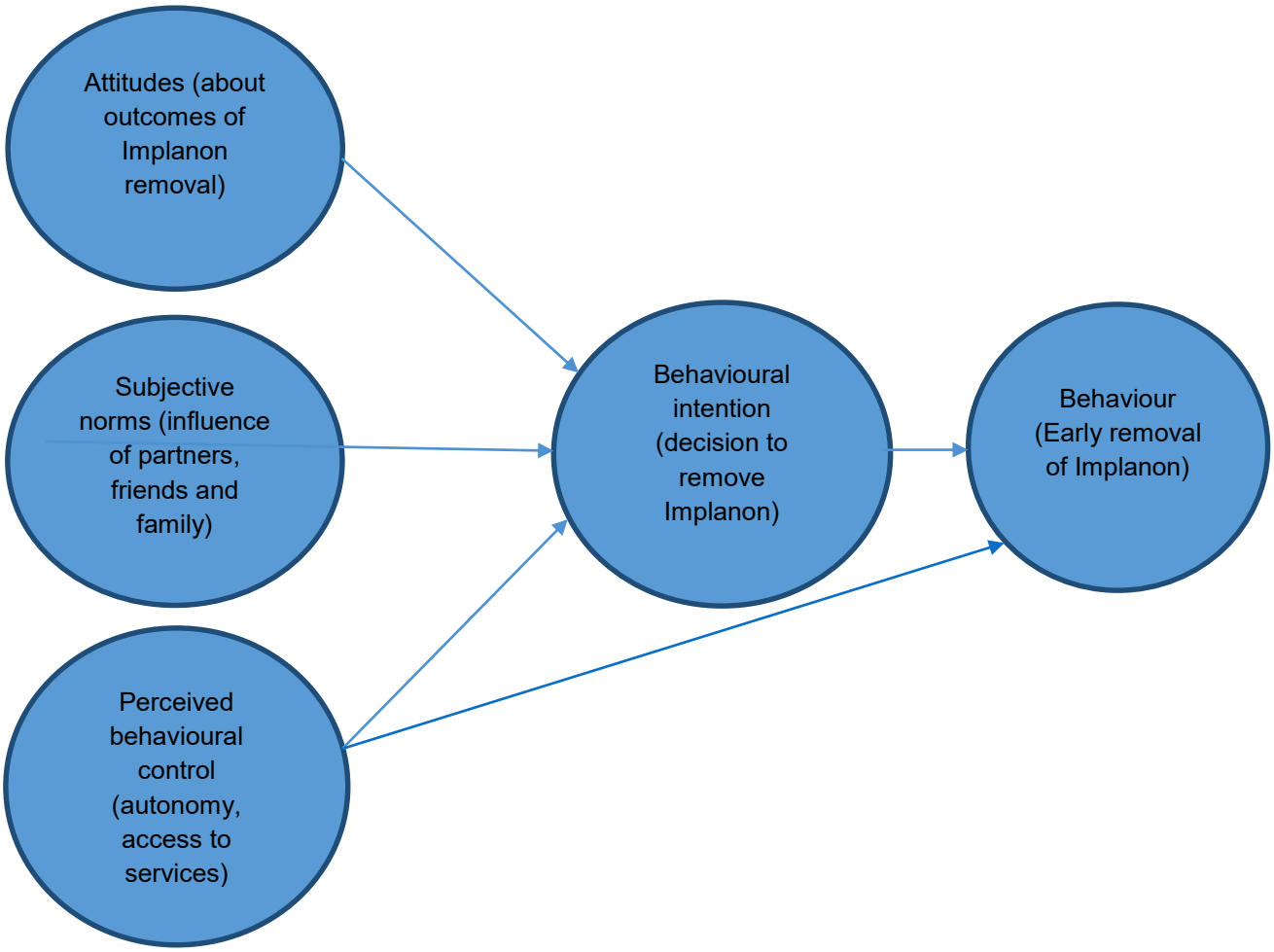

Figure 2.1: Theoretical framework adapted from the TPB (Ajzen, 1991, in Conner 2010:2)

2.10 SUMMARY

In this chapter, the implementation of Implanon, its benefits and risks, women's experiences and the reasons for removal were discussed. Qualitative and quantitative studies that were conducted globally and nationally on women's experiences were explored. Various reasons for the early removal of Implanon were identified in the literature. The TPB is one theory that aims to explain women's contraceptive choices and behaviour. The researcher illustrated how this theory may be used to explain a woman's choice to remove Implanon.

In the next chapter, the research methodology of the study will be discussed.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter presents the research methodology that was applied to explore the experiences of women about the use of the sub-dermal contraceptive implant Implanon and the reasons that led to early removal in the Cape Metropole, Western Cape. Research methodology seeks to justify the actual investigation that was carried out and asks what the researcher did to solve the research problem (Brink *et al*., 2018:187).

3.2 RESEARCH DESIGN

The study design is a description of how the qualitative researcher plans to go about answering a research question (LoBiondo-Wood & Haber, 2018:92). An exploratory qualitative study design was applied using in-depth and key informant interviews.

3.2.1 Qualitative approach

A qualitative research approach focuses on the qualitative aspects of meaning, experience and understanding. Therefore, qualitative methods are used to study human experience from the viewpoint of the research participants in the context wherein the proposed research problem takes place (Brink *et al*., 2018:104). This design was chosen as it enabled the researcher to concentrate on the life challenges that are experienced by the participants and it exposes the hidden meaning behind the experiences described by the participants (Burns & Grove, 2015:73).

3.2.2 Exploratory-descriptive qualitative design

According to Grove, Burns and Gray (2013:27), exploratory-descriptive qualitative research is carried out to explore matters or problems that need to be resolved. In addition, exploratory-descriptive qualitative research can identify problems that can be dealt with only by means of obtaining the viewpoints of the concerned individuals (Grove *et al*., 2013:27). Since this study was aimed at gaining rich in-depth knowledge and a deeper understanding of the reasons for early discontinuation of Implanon and exploring experiences among women of childbearing age, an exploratory descriptive qualitative research design and methods were considered the most appropriate. Polit and Beck (2014:343) stated that the main objective of exploratory descriptive designs in nursing is to explore in detail phenomena or principles that are not clearly comprehended. Qualitative study methods were considered the most helpful in understanding women's understanding and their reasons with respect to early removal of Implanon, and in probing the how's and the why's of the phenomena under investigation.

3.3 STUDY SETTING

The study was conducted at New Somerset Hospital and the Du Noon Community Health Centre. The New Somerset Hospital operates in the Cape Town Central Health District of the Metro Region in Green Point. The New Somerset Hospital was chosen for this study since complicated removals are referred to the hospital from district clinics and from community health care centres (Petro, 2017:101).

The New Somerset Hospital serves communities from various socio economic, ethnic and cultural backgrounds. About three (3) insertions are performed per day, mostly for post-natal women at the New Somerset Hospital. The New Somerset Hospital performs removals every Tuesday with an average of eight (8) clients per day of which two to three (2 to 3) are early removals; an estimated thirty-two (32) per month with approximately twelve (12) early removals.

The Du Noon Community Health Care Centre is predominantly utilised by people who are from poor socio-economic backgrounds and those who have migrated from neighbouring countries. Du Noon Centre was chosen due to the large number of insertions and removals taking place. The researcher learned about this high number through personal communication with the sister in charge of the clinic. The Du Noon Community Health Care Centre reports approximately forty (40) insertions per month and twenty to thirty (20 to 30) removals per month of which approximately fifteen (15) are early removals as the information provided by the sister in charge.

Figure 3.1 below shows the sub-district in the Cape Metropole and Figure 3.2 below shows the sub-district of the Southern Western Sub-structure where Du noon is located:

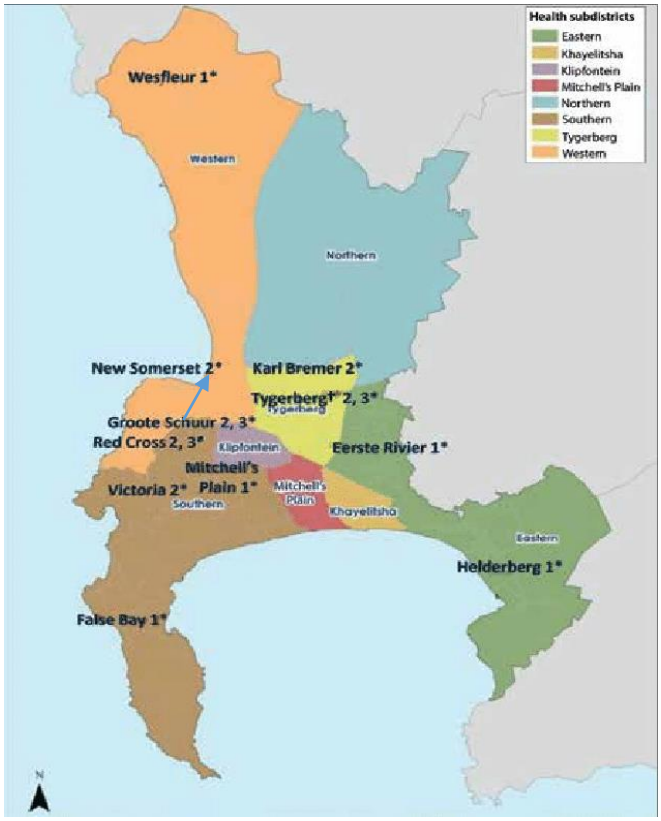

Figure 3.1: Map of the sub-district in the Cape Metropole. (Source: Cape Metro District Health plan, 2018/2019-2020-2021)

Figure 3.2: Du noon CHC operates in the Western Sub-district of the Southern Western Sub-structure. (Source: Cape Metro District health plan, 2018/19-2020/22)

3.4 STUDY POPULATION AND SAMPLING

A population, as stated by Grove *et al*. (2013:351), is a group of people with the same characteristics which the intended research study will focus on. The population included all

women from the age of eighteen (18), who were requesting removal of the Implanon for some reason, during the study period (04 July 2019 to 23 September 2019). Although adolescents are using Implanon, it could be difficult to obtain consent from the parents or from the guardians as some teenagers may not be comfortable about disclosing to their parents that they are using contraceptives. Adolescents may also have different reasons from those of the adults for the removal of the Implanon, and therefore the researcher chose to focus the study on adult women.

Both those who have and those who do not have children were included as their perceptions may be different. Further, participants were included, irrespective of whether the implant was inserted at a public or at a private institution. It was noted that some of the participants had had Implanon inserted in other countries, for example, Zimbabwe; therefore, the researcher had to be careful when recruiting, as some patients were removing Jadelle[1].

Sampling is defined as the process of selecting a sample from the population to obtain information concerning a phenomenon in a way that represents the study population (Brink et al., 2018:115). The researcher employed purposive sampling for this study as it is common in qualitative research and it selects either a spread of those who are most typical, or from those where one can learn the most. In this context, the participants who were interviewed were those who had had the experience of using Implanon and who had subsequently decided to remove it prematurely, for specific reasons.

The researcher has interviewed women of different ethnic backgrounds, different parity, different ages, and different educational backgrounds. Of the nineteen (19) women who were approached to partake in the study, seventeen (17) agreed to participate. However, on the day of the scheduled interviews, three (3) women did not arrive for the interview and they could not be reached on their cell phone numbers. Two (2) women declined on the day of the interview due to job responsibilities and one (1) participant needed to be excluded as it became apparent during the interview that she had removed Jadelle instead of Implanon. The final sample included eleven (11) participants. Data saturation was achieved with the tenth interview and one more interview was conducted to confirm that no new information was shared.

3.4.1 Inclusion criteria

- Women eighteen (18) years and older who are of child-bearing age.

[1] contraceptive implant that consists of two silicone rods that contain 75mg levonorgestrel in a polymer matrix and is effective for five years

- Those clients who came in to remove the Implanon before the two and a half to three (2.5 to 3) years of utilization (Balogun *et al.,* 2014:4).

3.4.2 The recruitment and the selection of the participants

Data collection was commenced after ethics approval and institutional permission was obtained. The researcher planned, with the HCWs, to inform the potential participants about the study and then asked for their permission to be referred to the researcher. This took place on the initial day when clients came to the clinic to get an appointment for Implanon removal. Thereafter, on the scheduled day of Implanon removal, the researcher spoke to the potential participants in a pre-arranged private area (to maintain privacy and confidentiality).

The purpose was to explain the study and to screen for eligibility, applying purposive sampling criteria, and to select those who met the inclusion criteria. Then, appointments for the pilot interview and for the formal interviews were scheduled to take place at a convenient time and place, with those who were willing to participate. The participants' contact details were obtained to remind them of the interview.

The researcher called all the participants via their cell phone numbers a day before the agreed upon interview date. The study information sheets were handed to them on the same day of screening. The researcher informed the participants that full informed consent would be obtained or signed on the day of the interview, prior to the data collection process session. Snacks were provided during interviews to the approximate value of fifty rand (R50) per person. The researcher had a budget to reimburse transport to a maximum of one hundred rand (R100), as this is the approximate amount of travel costs, but the researcher did not need to reimburse participants as the researcher met them at a venue that was convenient for them.

In the Du Noon Community Health clinic, it was challenging to recruit participants since there was no specific person responsible for Implanon removals. They spoke to any sister or doctor who was available on that day which made communication between the healthcare workers and the researcher difficult. However, the sister in-charge managed to assist with the recruitment and the selection of the participants.

3.5 PILOT INTERVIEW

A pilot interview was conducted, prior to the main study, to trial the practical aspects of the proposed main study (Brink *et al.*, 2018:174). The pilot interview was conducted with the one participant who met the inclusion criteria for the main study. The data obtained from the pilot interview was included in the main study for analysis. This data provided valuable information.

The researcher received training in interview skills at a workshop at Stellenbosch University before conducting the pilot interview. The supervisor further assessed the skills of the researcher by listening to the pilot interview. The supervisor provided formative feedback; for example, that the interview was too short and that the researcher could improve the depth of the information by probing more.

The pilot interview was done on the 04/07/2019 and it took eighteen (18) minutes and fifty-one (51) seconds. The informed consent form was signed by the participant on the day of the pilot interview before data collection commenced.

3.6 INTERVIEW GUIDE

An interview comprises verbal communication between a researcher and a participant, whereby information is provided to the researcher. A semi-structured interview guide was used during data collection to allow the participants freedom to talk about their experiences while the researcher still controlled the interview (Appendix A). In this type of interview, the interviewer must ask a specified number of questions, but can also pose additional ones (Brink et al., 2018:144). The language that was used during the interviews was English and Xhosa. The interview guides were translated into Xhosa language prior the interview process to ensure that those participants understood the questions. Reflection and summarising was done on the answers that were provided by the participants to do member checking.

The interview guide comprised two sections. Section A included biographical data, namely the age group, the ethnic group, the gravidity and parity, the marital status, the participant's employment and educational level. The reason for including the ethnic group was to ensure representation of the different cultural groups and to describe the sample's demographic information. Section B comprised the experiences of the women about early removal of the Implanon and the reasons that led to early removal. Open ended questions such as "What advice can you give to someone who wants to use Implanon?" were followed by probing questions that were asked carefully, to allow for the exploration of experiences (Grove, Burns & Gray, 2013:271). The probing questions included: "What advice can you give to someone who want to use Implanon?"

3.7 DATA COLLECTION PROCESS

Data was collected through semi-structured individual in-depth interviews (face to face) conducted by the researcher. Eleven (11) participants, including the pilot interview participant, were interviewed. The interviews were conducted from 04 July to 23 September 2019, over a period of three (3) months, due to other work commitments of the researcher and the

availability of the participants. Interviews were conducted in the preferred venues of the participants. For example, six (6) interviews were done at the hospital premises, two (2) at participants' workplaces and three (3) were done at their homes. The researcher recorded the interviews on a digital voice recording device which were saved on a computer for later transcription.

Challenges included the noise coming from the machines when interviewing one participant at her workplace. However, we closed the windows of the office that we were given, and the interview continued. The interview audio recording was loud and clear thereafter and we did not need to discard the interview. Interviews that were done at the participants' homes were better in terms of noise, compared with the hospital interviews because phones were ringing and people in the passages were talking. Nevertheless, all the interviews were audible and some of the recordings were sent to the supervisor.

The researcher is fluent in Xhosa and English. The participants' home languages were English, Xhosa and Afrikaans but some preferred to be interviewed in English. The participants were interviewed in their language of choice. Three (3) participants were interviewed in Xhosa and eight (8) in English. The researcher conducted the interviews herself and the English recordings were forwarded to the supervisor. The participants were given pseudo names like Suzie, Cindy, Lizzy, Mrs X and Miss X and no real names were mentioned by the researcher during the interviews, to ensure anonymity. The study did not pose any direct risk or harm to the participants and it did not evoke any unpleasant emotions from them. The participants seemed happy and they were laughing while they were expressing themselves freely.

During the interview and immediately after the interview, the researcher wrote field notes and phrases in order to clearly note down specific instances that transpired in the field. Field notes referred to a short summary of observations that represented a narrative set of written notes, intended to paint a picture of a social situation in a more general sense (LoBiondo-Wood & Haber, 2018:250).

3.7.1 Interviews

The researcher followed a technique described by Ritchie, Lewis, Nicholls and Ormston (2014:180) for the interview process. Before the commencement of the interview, demographic data was obtained. The researcher offered beverages and had general conversations with the participants that included greetings and introductions, to establish a good rapport with the participants.

The interviewer checked whether the participants were comfortable and indicated to the participants before commencement, that the interview would take approximately one (1) hour. To facilitate a relaxed environment and to ensure that the participants felt at ease during the interviews, the researcher had introduced the research topic to the participants beforehand, and comprehensively explained the aims, objectives and the purpose of the study.

Furthermore, the researcher explained the expectations from the participant's point of view. The overall duration of the interviews was between thirty-three and forty-two (33 and 42) minutes. The participants were informed again before the questions were asked that taking part was voluntary, and that they could still withdraw if they wanted to.

3.8 DATA ANALYSIS

The essence of qualitative data analysis is to determine codes and thought processes that extend to assigning meaning to the data (Gray *et al*., 2017:269). In this study, the interviews were recorded and then personally transcribed by the researcher. This assisted the researcher to be absorbed in the data. Xhosa interviews were translated into English. Since the researcher is fluent in English and Xhosa, she ensured that the translations were valid and that cultural nuances were accurately captured.

Interviews were transcribed in a Microsoft Word document. The rights of privacy and anonymity were maintained after the interviews. Only the supervisor and the researcher were in control of the recordings and they destroyed them after the transcripts were checked. The transcripts were coded and kept on a password-protected computer.

The main aim of the data analysis is to transform a large amount of text into a highly organised and concise summary of key results. Analysis of the raw data from verbatim-transcribed interviews to form categories or themes is a process of further abstraction of data at each step of the analysis (Erlingsson & Brysiewicz, 2017:94).

The analysis of the data was started simultaneously with the first interview and continued throughout. The analysis of the data was done manually, using content analysis as described by Erlingsson and Brysiewicz (2017:95) to identify the themes that emerged.

3.8.1 Dividing the text into meaning units and condensing meaning units

This means that after the researcher had read the interviews several times and keeping the research aims and the questions clearly in focus, the text was divided into meaning units. Located meaning units were then condensed further, while keeping the central meaning intact. The examples condensing meaning units are illustrated in Table 4.1 below.

Table 3.1 Meaning units and condensed meaning units

MEANING UNIT	CONDENSED MEANING UNIT
After the explanation I ended up choosing this Implanon	I chose Implanon
The nurses gave information about it but there in Somerset hospital	Nurses gave information
It is very good in preventing pregnancy as compared to others	Very good in preventing pregnancy

3.8.2 Formulating codes

The researcher developed codes that are descriptive labels for the condensed meaning units. Codes that concisely described the condensed meaning unit were the tools used to help the researchers to reflect on the data in new ways. Codes made it easier to identify connections between meaning units. The researcher wrote notes during the coding on her impressions and her reactions to the text.

Table 3.2 Condensed meaning units and codes

CONDENSED MEANING UNIT	CODE
I chose Implanon	Individual decision to choose Implanon
Nurses gave information	Sources of information
Very good in preventing pregnancy	Protection from pregnancy

3.8.3 Developing categories and themes

The researcher developed categories and themes by comparing codes and appraising them, to determine which codes appeared to belong together; thereby forming a category. In other words, a category entailed codes that appeared to deal with the same issue. Category names were short and factual. This is illustrated in Chapter 4 in Table 4.2.

3.8.4 Compilation

The researcher was careful not be introduce any bias during the analysis. In other words, the researcher remained aware of pre-understandings such as her own personal assumptions, professional background and her previous experiences and knowledge. During compilation, the researcher went back to the transcripts, to look for any similarities or any contradictions

by comparing findings and nuances; as well as unused data. The researcher then made realistic conclusions and interpreted the findings. The findings were interpreted in Chapter 4, accompanied by verbatim quotes to support the interpretation.

3.9 TUSTWORTHINESS

The validity of data was assured by adhering to the four criteria of assessing validity in qualitative research, as described by Lincoln and Guba (1985:5746) and as cited by Polit and Beck (2014:322-331). The four criteria, namely credibility, dependability, confirmability and transferability were applied, to ensure the trustworthiness of the study.

3.9.1 Credibility

Credibility is concerned with the validity of the conclusions that are drawn from the data and how these conclusions match the reality being reported on (Polit & Beck, 2014:322). The researcher ensured member checking during the interviews by reflecting, summarising and by asking probing questions. Continuous feedback was given by the supervisor after each interview, in order to improve interviewing skills.

The researcher was advised to probe deeper during the interviews to gain more information. The researcher carefully documented all aspects of the inquiry. Scrutiny of the data and the relevant supporting documents was done by the researcher and by the supervisor. Debriefing sessions in discussing themes and coding were conducted by the supervisor and the researcher.

3.9.2 Dependability

Dependability refers to the extent to which similar findings would be obtained if the study were repeated. However, variability is expected in qualitative studies, as the focus is on ‘the range of experience rather than the average experience’ (Ritchie *et al.*, 2014:180). For the proposed study to reflect dependability, the researcher ensured that all steps and all activities were documented well. Interviews conducted with the participants followed the same interview guide and questions. Since the researcher is fluent in English and Xhosa, she ensured that the translations were valid and that cultural nuances were accurately captured. Transcripts transcribed from audiotapes were checked and were verified by the supervisor and by the researcher.

3.9.3 Confirmability

Confirmability refers to the degree of objectivity; that is, the potential for congruence between two or more independent people about the data’s accuracy, relevance or meaning (Polit &

Beck, 2014:322). The researcher wanted to ensure that the results were truly based on the data and not on the characteristics or the preferences of the researcher. This was enhanced by systematic collection and by the documentation of data, including the raw interview recordings, the interview transcripts, the analysis of the documents, the personal notes and the report drafts.

Every decision and action that was taken during the study was documented, to provide a decision path to improve the auditability of the study. Confirmability was achieved by checking if the findings were reflecting the participants' voice recording and the conditions of the inquiry, but not the researcher's biases, motivations or perspectives.

3.9.4 Transferability

Transferability refers to how well the study's conclusions can be applied to other similar settings. The ability of others to judge whether the findings can be transferred depends on a detailed description of the study setting, the selection of participants and the findings (Mabuza, Govender, Ogunbanjo & Mash, 2014:3).

The researcher ensured that all activities are described clearly and thoroughly in the research documentation. The researcher pursued the data collection until data saturation was achieved, to ensure that all the relevant information was obtained in the research study.

The interpretation of the findings was followed by the verbatim quotes that were used. This has been discussed in detail in Chapter 4. The researcher compared the findings of this study with those of other studies in different contexts. The discussion of this is presented in Chapter 5.

3.10 ETHICAL CONSIDERATIONS

Ethical approval was obtained from the ethics department and permission was granted by the institutions where the research took place. A detailed discussion was provided in Chapter 1.

3.10.1 Informed consent

Permission to audio-record discussions as well as written consent, was obtained from the participants, prior to the interview sessions. The consent forms were written in English and translated into Xhosa and Afrikaans, as these are the common languages of the Western Cape Province. The participants received information about the study in their own language. Vital information regarding the study was given to the participants and they were not forced or bribed to partake (Burns & Grove, 2015:110). Informed consent was signed on the day of the interview, prior to the data collection sessions.

3.11 SUMMARY

This chapter covered a description of the research process, methodology and the data collection methods that were applied. An exploratory descriptive qualitative design was used to explore the experiences of women who have used Implanon and the reasons that led to early removal. The study setting was the New Somerset Hospital and the Du Noon Health Centre. The study population included all women from the age of eighteen (18), who were requesting early removal of the Implanon. Permission to conduct the study was granted by the management of both institutions before the recruitment and the selection of the participants commenced. The pilot interview was conducted with one participant. Data was collected from eleven (11) participants through using semi-structured individual in-depth interviews (face to face) conducted by the researcher. Analysis of the data was done manually using content analysis. The validity of the data was assured by adhering to the four criteria of assessing validity in qualitative research, namely; credibility, transferability, dependability and confirmability. Ethical approval was obtained from the HERC of Stellenbosch University. The researcher was guided by three fundamental principles; respect, beneficence and justice. The next chapter contains the findings of the study.

CHAPTER 4: FINDINGS

4.1 INTRODUCTION

In Chapter 4 the data collected is presented and interpreted, with reference to participants' experiences of using a sub-dermal implant called the Implanon, as well as their reasons that led to early removal. Themes and categories are described after presentation of the biographical data.

4.2 SECTION A: BIOGRAPHICAL DATA

Interviews were conducted with eleven (11) participants who met the inclusion criteria. Participants were between twenty-two (22) and thirty-eight (38) years of age. Only two (2) participants did not have children. Participants were interviewed in Xhosa and in English. Five (5) participants were married, and the rest were single, some staying with partners. Participants stayed in different geographical locations in the Cape Metropole in the Western Cape. Table 4.1 below depicts the biographical characteristics of the participants.

Table 4.1 Biographical data

Participant No.	Age	Race	Marital status	No. of children	Level of education	Employment Status	Date of insertion	Date of removal
1	22	African	Single	01	Grade 12	Employed	06/2018	18/06/2019
2	25	African	Single	02	Grade 12	Employed	03/2018	04/07/2019
3	38	African	Single	01	Grade 12	Employed	09/2017	16/07/2019
4	43	Coloured	Married	04	Grade 12	Employed	01/2018	23/07/2019
5	30	Coloured	Married	01	Grade 12	Unemployed	09/2018	30/07/2019
6	27	African	Married	00	Grade 12	Employed	02/2018	07/08/2019
7	32	African	Married	02	Grade 12	Employed	05/2018	07/08/2019
8	27	African	Single	00	N3[2]	Employed	02/2018	07/08/2019
9	23	African	Single	00	Grade 12	Student	01/2019	31/07/2019
10	34	Coloured	Married	04	Grade 9	Unemployed	01/2018	23/07/2019
11	23	Coloured	Single	03	Grade 11	Unemployed	08/2019	07/08/2019

4.3 SECTION B: THEMES

Themes and categories which were identified from the interviews were used as a structure within which to present the findings. Five themes were identified from the data and the

[2] N3 certificate is equivalent to matric and is provided at the technical colleges

categories varied from two (2) to four (4) per theme. The themes, categories and codes are displayed in Table 4.2 below.

Table 4.2: Themes, categories and codes

Themes	Categories	Codes
4.3.1 Knowledge and understanding	4.3.1.1 Information	• Types of contraceptives • Personnel responsible for insertion and removal of the Implanon • Nurses provided information about the Implanon • Pamphlets given out about the Implanon • Friends provided information on the Implanon
	4.3.1.2 Benefits	• Protection from pregnancy • Less frequent visits • Less worry about forgetting dates • Better than other contraceptives
4.3.2 Physical and emotional changes after inserting the Implanon	4.3.2.1 Physical symptoms	• Heavy bleeding and irregular periods • Thick and smelly vaginal discharge • Headaches • Pain, redness, itching, rash and swelling of the arm • Backache
	4.3.2.2 Emotional symptoms	• Change in the mood or attitude
	4.3.2.3 Identifying physical and emotional symptoms as the side effects of the Implanon	• First time experienced • Experienced after the Implanon
	4.3.2.4 Managing physical and emotional symptoms	• Delayed reporting • Self-medication • Medication given by HCWs
4.3.3 Feelings and emotions	4.3.3.1 Positive feelings	• Happy, excited at first, good experience, good feeling experienced
	4.3.3.2 Negative feelings	• Miserable, embarrassed, bothered, fed up, bad experiences • Fears of complications of the Implanon • Fear of violence from criminals that want the Implanon

	4.3.3.3 Effects on personal needs	• Financial expenditure • Decrease in sexual drive • Affected self-image
4.3.4 Decision-making	4.3.4.1 Individual decision to commence the Implanon	• Age of commencing contraceptives • Where and when the Implanon commenced • Reasons for commencing with Implanon
	4.3.4.2 Influences to use Implanon	• Friends • Mother
	4.3.4.3 Individual decision to remove Implanon	• When and where the Implanon was removed • HCW removing implanon
	4.3.4.4 Future plans for the family	• Injections • Having a baby • Pills • Hysterectomy
4.3.5 Support	4.3.5.1 Social support	• Partner involvement in decision of insertion and removal of the Implanon • Partner and friends advising on use and removal of the Implanon
	4.3.5.2 HCWs support	• Counselling on side-effects • No assistance provided for managing side effects

4.3.1 Theme 1: Knowledge and understanding

Knowledge and understanding were identified as a theme during the data analysis. The participants had concerns and knowledge regarding the Implanon and how they perceived the benefits thereof. For women to make an informed decision to use the Implanon, they needed to understand the advantages and the disadvantages of it. They had to be aware of any complications that might arise. Healthcare workers are responsible for providing information to participants about all the available contraceptive methods, to enable them to make informed choices. Knowledge and understanding about the Implanon is grouped into two categories; information and benefits.

4.3.1.1 Information

Most of the participants were aware of the various types of contraceptives that are available in South Africa. Although the Implanon is one of the new forms of contraceptives in South Africa that was introduced in 2014, all the participants knew who is responsible for insertion and removal, in what part of the body it is inserted and the duration of its effectiveness. Some participants complained that they received little information about the Implanon, but most

participants demonstrated some knowledge and understanding of the Implanon, by mentioning that the Implanon is inserted into the arm by a doctor or a nurse to prevent pregnancy for up to three (3) years. Participants were made aware of the availability of the types of contraceptives for example Implanon, IUDs and how they work, through demonstrations and health educational talks.

> *"The sister told me about the new types of contraceptives like the Implanon and Intra-uterine and the device she showed us how they were inserted by pictures and demonstrating."* (Participant No. 2)

> *"When they were doing health educational talks when I was still pregnant, they also mentioned this Implanon."* (Participant No. 5)

Participants said that the Implanon was inserted by a doctor or a registered nurse. Some participants highlighted that some nurses struggled with the insertion and the removal of the Implanon, which is why they were referred to New Somerset hospital. These participants perceived that the problems they experienced with the use of the Implanon developed because the insertion was done by nurses.

> *"I have put it (Implanon) there at Mitchells' Plain, but the nurses struggled to take it out. They have sent me to Somerset."* (Participant No. 5)

> "*It (Implanon) was inserted by the sister not the doctor, I think that is why I had some problems*." (Participant No. 6)

Most participants received information about the Implanon through educational talks given at the clinic. These educational talks were often given to groups and not individually.

> *"Yes, sister we were the group of mothers after we gave birth. But even before I gave birth, the sisters in the clinic told me about it while I was still attending clinic."* (Participant No. 1)

Some participants were given pamphlets to take home, but many never read the pamphlets.

> *"I had a leaflet, you know us, leaflets we supposed to read but we don't."* (Participant No. 4)

> *"Nurses told us about the good and the bad things about the Implanon."* (Participant No. 6)

Participants felt that they had enough information before they had made a choice to insert the Implanon, since the advantages and the disadvantages were explained well.

> *"Nurses told us about the good and the bad things about the Implanon."* (Participant No. 6)

Friends were also a source of information for some of the participants. The participants mentioned that some of their friends shared their experiences about using the Implanon with them.

> *"I heard about it for some time, I think it was 2015 or 2016 if I am not making a mistake. Some of my friends were using it."* (Participant No. 5)

In summary, most participants received the information about the Implanon through educational talks and pamphlets that were provided by the nurses. In the next section, the perceived benefits are discussed.

4.3.1.2 Benefits

For most of the participants, their decision to use the Implanon was based on the perceived benefits. Participants alluded that they chose the Implanon as they perceived that it was better than other contraceptives. They viewed the method as offering the best contraception in preventing pregnancy.

> *"A person can never fall pregnant while using the Implanon."* (Participant No. 7)

> *"When the nurse was demonstrating and showing different types of contraceptives, I could see that the Implanon is the best in preventing pregnancy."* (Participant No. 11)

Other verbalized benefits included less frequent visits and less worry about missing appointments. Adherence to contraceptives is mostly determined by keeping regular follow-up appointments that are given to participants.

Some participants work and they found it difficult to ask permission from their employers to go for family planning appointments, which may lead to the missing of appointments.

> *"You put it once and you are protected from pregnancy for full 3 years*." (Participant No. 2)

> *"A person does not have to come quite often to the clinic for follow ups."* (Participants No. 1, No. 4 and No. 5)

Less worry or being free from the responsibility to remember to take oral contraceptives or to adhere to the follow-up dates for injectable contraceptives were stated by the participants as the additional benefits of using the Implanon. Some participants also mentioned that they had become pregnant before due to forgetting to take their oral contraceptives for family planning.

> *"I was so happy with the Implanon, as I had to be free from worrying about forgetting my follow updates."* (Participants No. 11)

Most participants used other forms of contraceptives before using the Implanon. Therefore, after the information was provided to them, they were able to perceive the Implanon as the best method when compared to other contraceptives.

> *"With other contraceptives they say there are slight chances that a person can get pregnant."* (Participant No. 6)

> *"When the nurses explained all those types of contraceptives, the Implanon seemed to be the best."* (Participant No. 7)

The participants therefore chose the Implanon based on the benefits they perceived from the information that was conveyed to them regarding the Implanon. Those benefits included less frequent visits to the clinics, protection from pregnancy, less worry on forgetting appointment dates and superior efficacy.

4.3.2 Theme 2: Physical and emotional changes after inserting the Implanon

Most participants complained of physical and emotional changes that they experienced after inserting the Implanon. In some instances, these changes led participants to remove the Implanon early. The participants perceived these physical and emotional changes as side-effects caused by the Implanon. They mentioned that nurses had mentioned that they would experience these changes. Participants also stated that they were provided with pamphlets that listed all the possible side-effects. Four categories were identified under this theme, namely, physical symptoms, feelings and emotions, identifying physical and emotional symptoms as side-effects of the Implanon and managing physical and emotional symptoms.

4.3.2.1 Physical symptoms

Most participants complained about physical symptoms they had experienced after inserting the Implanon. These perceptions were caused by the information that they received prior to the insertion of the Implanon. Some participants even stated that the pamphlets that they received contained mostly side-effects of the Implanon. Participants mentioned that they had experienced physical symptoms from two (2) to four (4) months after insertion of the Implanon. Most participants in the present study removed the Implanon because of the physical symptoms experienced. These physical symptoms included heavy bleeding; irregular periods; headaches; dizziness; pain, redness, itchiness and swelling of the arm; and a thick and smelly discharge.

Six (6) participants complained of heavy, irregular bleeding. Some participants mentioned that they initially thought that this was due to normal menstrual periods, but they noticed that it

became heavier than normal and that the bleeding lasted more than two weeks. In some cases, the bleeding was continuous, indicating that urgent attention was needed.

> *"I bled right through, sometimes more than two weeks without a break."* (Participant No. 1)

> *"I was bleeding almost every day, that is not healthy"* (Participant No. 8)

> *"After two months of inserting the Implanon, I noticed that my periods were too heavy."* (Participant No. 5)

Two (2) participants complained of vaginal discharges. One participant mentioned that the vaginal discharge was smelly, thick and heavy. Though the other one stated that her discharge was not smelly, she was concerned as it was 'heavy'. The participants mentioned that they were uncomfortable as they felt wet most of the time.

> *"I have experienced a very thick and heavy discharge which was not smelling but it was too much to tolerate."* (Participant No. 3)

Four (4) participants complained of headaches that they had encountered after inserting the Implanon. Although some participants mentioned that the headaches did not occur often. One participant stated that her headaches led to migraines. In most cases, the headaches occurred together with other physical symptoms.

> *"After 4 months, I started to have some headaches and my periods also became so heavy."* (Participant No. 5)

Three (3) participants were concerned about their arms that were swollen, itchy, numb, reddish and painful for some time after inserting the Implanon. They even mentioned these symptoms as the reason for the early removal of the Implanon.

> *"Then later I think about 8 months, I noticed that my left arm is swollen and painful. I could feel the Implanon moving in my arm."* (Participant No. 6)

One participant verbalized that she was bothered by headaches and a rash that she experienced after inserting the Implanon. She mentioned that the rash spread from her arm to her face and then to her body.

> *"Mostly it was this rash and the headache that was bothering me, I decided to go to the clinic to get some help."* (Participant No. 9)

One (1) participant complained of severe backache that she had experienced after inserting the Implanon. She expressed that she struggled to care for her new-born baby due to the backache that she had experienced.

> *"Then afterwards, I think it was 3 to 4 months of inserting the Implanon I started to experience some back ache and my periods were coming often then later, this back pain continued, and it was even difficult to look after my baby."* (Participant No.10)

Physical symptoms were experienced by most of the participants. The reaction to these symptoms was different for each participant. These physical symptoms seemed to be the main reasons that led to the early removal of the Implanon. Heavy bleeding, irregular menstrual periods and headaches were the most frequent reported symptoms. In addition to the physical symptoms, some participants also experienced emotional symptoms.

4.3.2.2 Emotional symptoms

Some participants complained of emotional symptoms that they experienced after inserting the Implanon. These emotional symptoms include a change in their behaviour or their attitudes that they had noticed. Some participants mentioned that they became moody and they felt as if they were depressed.

> *"I've realized that my hormone levels were high, I was becoming moody, I was becoming angrier, my moods were changing I was becoming like pregnant, aggressive all the time, was stressing, it was giving me a bit of depression."* (Participant No. 8)

> *"I was starting to be jittery and it really changed my attitude."* (Participant No. 6)

Although most participants complained of physical symptoms that they had experienced, some participants had encountered emotional symptoms that were noticed through change in behaviour and attitude.

4.3.2.3 Identifying physical and emotional symptoms as the side-effects of the Implanon

Participants associated physical and emotional symptoms as the side-effects of the Implanon. These perceptions were caused by the information that they had received prior to the insertion of the Implanon. Some participants declared that the symptoms that they experienced were listed as side-effects on the pamphlets that they were given. Other participants mentioned that they experienced these symptoms for the first time ever since they commenced using different types of contraceptives. Some argued that they had experienced these symptoms after they had inserted the Implanon and therefore they identified them as side-effects.

> *"I am sure that those were side-effects that were caused by the Implanon because before I insert it, I never have those problems I was just fine before till it was in my system."* (Participant No. 6)

Another participant specified that she had experienced the symptoms after inserting the Implanon.

> *"Because I only had these problems after using the Implanon."* (Participant No. 5)

Some participants tolerated the physical and the emotional symptoms that they had identified as side-effects for a specific period. They tolerated the symptoms since they thought that it would be self-limiting, due to the information that they had received from the healthcare workers and from the pamphlets that stated that they might initially experience side-effects.

4.3.2.4 Managing physical and emotional symptoms

Participants responded in different ways to manage the physical and the emotional symptoms. Coping strategies differed. Some participants viewed these symptoms as problems that need immediate assistance, but most of them did not report the physical and the emotional symptoms as they thought that they would disappear.

Most of the participants hoped that the symptoms would disappear as indicated in the following quote:

> *"Then I think on the 3rd month of using the Implanon, I noticed that I have a rash on my arm. I also thought it is going to disappear as I did not go immediately, to the clinic."* (Participant No. 9)

Another reason for delayed reporting of symptoms was the perception that they would not get proper assistance from the healthcare workers at the clinics.

> *"I only went twice, then I decided no it is enough now. I can see also there is nothing much that nurses can do because these side-effects stop for some short time and come back again."* (Participant No. 2)

There were other participants who decided to take self-medication instead of reporting the physical symptoms. Some participants mentioned that they took pain tablets to treat the headaches, prior to reporting their symptoms to the healthcare workers. Another participant who complained about back pain mentioned that she took pain tablets, hoping that the back pain will disappear.

> *"First I thought it was just a normal back pain. I was hoping that it will disappear soon, so I took pain tablets."* (Participant No. 10)

Some participants who went to seek assistance from the healthcare workers declared that they were given medication to suppress the physical symptoms associated with the Implanon.

The most frequent medication that was prescribed for participants was pain tablets such as Panado as participants experienced headaches and back pain.

> *"They just gave pain tablets, but one doctor said I have migraine."* (Participant No. 5)

Although some patients could not remember the names of the medications provided to them, they stated that they were provided with medication to stop the heavy bleeding that they experienced. In most cases, as related by the participants, the healthcare workers did not investigate the cause of the symptoms nor did they explain to the participants what the possible causes could be.

One (1) participant who had complained of a rash mentioned that bloods were not taken to check what was wrong with her. She indicated that she was given ointment to treat the rash.

> *"When I went to report the rash, the nurse just gave me ointment without even taking bloods to check what was wrong with me." (Participant no.9).*

However, she stated that the ointment did not help. Many of the participants had similar experiences which led to the perception that the healthcare workers were not able to assist them when it came to managing the symptoms and the side-effects that they experienced.

4.3.3 Theme 3: Feelings and emotions

The participants verbalized a range of feelings and emotions that they had experienced while using the Implanon. These ranged from positive to negative feelings. The feelings and the emotions of women who had used the Implanon had to be considered as this had influenced the outcome of the Implanon removal. Three (3) categories were recognized under this theme, which include positive feelings, negative feelings and effects on personal needs.

4.3.3.1 Positive feelings

Initially, most of the participants experienced positive feelings about inserting the Implanon. This may have been because they did not experience any physical or emotional symptoms soon after the insertion. Some of the emotions verbalized were words such as happy, excited and a good experience that showed their positive feelings towards the Implanon. Most of the participants mentioned that the positive feelings that they had experienced were caused by knowing the benefits of the Implanon such as less frequent visits to the clinics and less worry about forgetting appointment dates.

> *"To tell you the truth Mam, I was happy because I knew now, I am safe for 3 years."* (Participant No. 6)

> "*I won't lie to you, although things did not turn out the way I wanted to, I was so excited when I inserted the Implanon because I knew that I did not have to go to the clinic quite often."* (Participant No. 11)

> "*I had a good experience with the Implanon except for the heavy, thick discharge that I have encountered, it did not make me sick like other people."* (Participant No. 3)

The above statements illustrate that some participants were satisfied with their choices initially. However, participants expressed that the positive feelings they had experienced initially changed to negative feelings.

4.3.3.2 Negative feelings

The negative feelings participants had encountered were illustrated by the words that they used, such as miserable, embarrassed, jittery, bothered, annoyed and disappointed. Other participants voiced that they had bad experiences with the Implanon that led them to think about removing it. Most of them expressed that they regretted choosing the Implanon as a form of contraception. The negative feelings accumulated, especially in the time just prior to removing the Implanon.

The following quotes reflect this statement further:

> *"I was just miserable especially for the last four (4) months."* (Participant No. 9)

> *"That is when I decided that enough is enough. I need to remove the Implanon."* (Participant No. 6)

The physical symptoms experienced led some participants to suspect that there was something wrong with them. They feared complications that could arise from the physical symptoms caused by the Implanon.

> *"I was scared that maybe my arm has been damaged by the Implanon*." (Participant No. 6)

In addition to the fears caused by experiencing physical and emotional symptoms, one (1) participant verbalized the fear of violence that could arise from the criminals who wanted the Implanon to smoke it as a drug.

> *"It is not safe to have this Implanon there by us. One of my friends had the Implanon but she met the skollies (criminals), they cut her arm and took it out there in Mitchell Plain. They mix it with tik (drug) and smoke it."* (Participant No. 5)

Participants experienced different emotions and feelings towards the Implanon use. Most participants mentioned that the negative feelings were caused by the physical and the

emotional symptoms of the Implanon. The negative feelings contributed to their decision to remove the Implanon early.

4.3.3.3 Effects on personal needs

Most participants verbalized that the physical and the emotional symptoms that were experienced effected their personal needs. These needs include finances, sexual drive and self-image. Some participants who experienced heavy bleeding complained of having to purchase sanitary pads often, which affected their financial expenditure and budget. This was a major concern as some mentioned that they were not employed and that they were dependent on their husbands.

The excerpt below explains the statement further:

> *"Pads are expensive my husband complains a lot about the money he had to give me to buy those pads."* (Participant No. 5)

In addition to the statement above, one (1) participant added that she was also tired of frequently buying pads.

> *"Yes, I was bothered by buying pads all the time and being wet all the time."* (Participant No. 3)

Frequent bleeding also affected her self-image.Some participants verbalized a decrease in sexual drive or loss of libido that had been instigated using the Implanon, as either a side-effect or due to other symptoms such as frequent bleeding. Some participants expressed fears such as losing their husbands to infidelity that could have been caused by their decreased sexual drive.

> *"Challenges were that my sexual drive disappeared which is the big challenge in your married life."* (Participant No. 4)

> *"You know we can't do intercourse when I am having my periods."* (Participant No. 5)

Most participants expressed their concerns as some mentioned that they were not employed and that they depended on their husbands. Therefore, the additional financial expenditure had a negative impact towards the Implanon use, which caused the participants to consider early removal

4.3.4 Theme 4: Decision-making

Most participants revealed that it was their decision to use and to remove the Implanon. However, there were a few participants that expressed that they had engaged with their partners in decision-making. Even so, those participants stated that they were not influenced

by their partners in making the decisions of inserting or removing the Implanon. Four categories were identified under this theme of decision making, such as an individual decision to commence with the Implanon, the influence of partners, family and friends, and the decision to remove the Implanon and future plans for family planning.

4.3.4.1 Individual decision to commence the Implanon

Although the HCWs gave information on the Implanon to participants, they still had personal autonomy in making the decision. Participants stated that they were not forced by the healthcare workers to choose the Implanon. Some participants indicated that they had made their decisions based on the perceived benefits of the Implanon that were explained to them. Most participants voiced that they were at the right age to make their own decisions.

> *"I started using contraception when I was 22 years old."* (Participant No. 6)

> *"I had to choose the Implanon as it was the best, it was my choice to make."* (Participant No. 2)

Some participants commenced using the Implanon post-delivery, whereas others never had children. Most of the participants made the decision to insert the Implanon immediately post-delivery, stating that they needed a contraceptive that would sustain them for a longer period, so that they would have enough time to raise their children. The participants who did not have children indicated that they were still students, therefore they chose the Implanon as they wanted to concentrate on their studies.

> *"No mam, it was my choice to use the Implanon, I still need to study. Babies are too expensive."* (Participant No. 8)

Participants expressed that their personal choice of commencing with the use of the Implanon was based on the prevention of pregnancy. They revealed that their reason for choosing the Implanon was because they wanted the best contraceptive that was safe for them. There were two (2) participants who were advised by a doctor to rather choose tubal ligation because of their situations, but they still chose the Implanon as they were not forced to select a particular contraceptive method. They perceived that they had personal autonomy to make their own decisions and they may have felt that the Implanon was a less permanent method, compared to tubal ligation.

> *"I decided to use the Implanon while I was in hospital for delivery. They were trying to convince me to do tubal ligation, but I refused as they did not want me to use injection. I ended up choosing the Implanon then."* (Participant No. 3)

One participant voiced that she had struggled with bleeding problems since she was nineteen (19) years old. The participant mentioned that she had tried various types of contraceptives

and that she had attended a hormonal clinic at a young age. The participant expressed that she had undergone tubal ligation (removal of fallopian tubes). Therefore, the Implanon was recommended as a last resort, to resolve her bleeding difficulties.

> *"For me I thought with the Implanon inserted, it will take my bleeding away but for some reasons my bleeding won't be so bad, it will be like a normal period, but later it was not like a normal period. The thing is, it was normal when I first inserted but later on, I was bleeding."* (Participant no.4)

In summary, some participants made their own decisions to commence the inserting of the Implanon, and their decisions were based on the benefits, such as prevention of pregnancy and they perceived it as the best method of contraception.

4.3.4.2 Influences to use Implanon

Most participants revealed that their partners were not involved in family planning issues, especially the African participants. Some participants stated that they had spoken to their partners about their contraceptive choices, including the Implanon. Even so, participants mentioned that they were not influenced in choosing the Implanon. Other participants did not speak to their partners as they were uninterested.

> *"Yes, I told him, but he does not care about that, he does not know what that is for."* (Participant No. 3)

Although some participants voiced that they had heard about the Implanon from their friends, they also mentioned that it was their decision to choose the Implanon. Some patients declared that they were aware of their rights regarding their own bodies, therefore they stated that they were not influenced by family members or friends. Some participants mentioned that their friends shared positive experiences concerning the Implanon, and therefore they were encouraged by these friends to use the Implanon.

> *"Few of my friends have inserted the Implanon then I was also interested to try it after what they said"* (Participant No. 11)

There were participants who indicated that some friends had shared their negative experiences regarding the Implanon, but the participants indicated that they were not influenced by these negative influences. There was one (1) participant who mentioned that she was frightened of the criminals who take the Implanon out to smoke it. However, she still maintained that she was not influenced by those fears.

> *"Most of my friends removed it because they were sick, but that did not bother me. I made my own decision to insert and try it."* (Participant No. 7)

> *"My friend's experience made me scared when she told me that she gained too much weight from using the Implanon."* (Participant No. 5)

One participant mentioned that her mother influenced her insertion of the Implanon. Although the participant was old enough to make her own decision regarding contraception, she stated that her mother wanted her to use the Implanon as she was under her guidance.

> *"I wanted to try the 3 months one, but my mother did not want to. She said the 3 months is used by people who have children already and I might struggle to get pregnant when I want children."* (Participant No. 6)

Some participants mentioned that they were influenced by friends to commence using the Implanon through the positive experiences that they have shared. Others indicated that their friends had shared negative experiences, but the participants said that that they were not influenced by those experiences as they had still inserted the Implanon. Even though most of the participants felt that they were not influenced by their partners or friends, it is very likely that these influences contributed to their decisions to either commence or remove Implanon.

4.3.4.3 Individual decision to remove the Implanon

Participants mentioned that they have removed the implant based on the symptoms that they had experienced. Some participants stated that their partners were aware of the symptoms, but they had never forced the participants to remove the Implanon. The sustainability of the Implanon was different among the participants. Some participants removed the Implanon within a period of six (6) months to a year after insertion and others eight (8) months after insertion.

> *"I have inserted it this year on the 31/01/2019 and removed it on the 31/07/2019. Six months was enough for what I was going through"* (Participant No. 9)

> *"I inserted it in May 2018, then I removed it on the 17/08/2019. That means I had it for a 1 year and 6 months."* (Participant No. 7)

Some participants revealed that their Implanon were removed at their local clinics, although some participants were referred to the New Somerset hospital as nurses struggled to remove them. It was indicated that New Somerset had a specialist doctor who specialized in removing difficult Implanon.

> *"It was even worse when the sister in the clinic tried to take it out but could not feel it. I was even scared because she had to cut my arm to look for it. Eventually she later referred me to Somerset hospital."* (Participant no. 5)

There were participants who mentioned that their Implanon were removed by nurses and others stated that the removal was done by doctors.

> *"My Implanon was removed by the nurse in our clinic."* (Participant No. 11)

> *"Even now I went to Green Point clinic for them to remove it, but they refer me to Somerset for it to be removed by the doctor."* (Participant No. 2)

The participants stated different reasons for the early removal of the Implanon. Physical and emotional symptoms that were associated with the Implanon were the main reasons for early removal. These symptoms include heavy bleeding, severe headaches, painful and swollen arms, vaginal discharges and backache.

> *"The reasons are the bleeding that was heavy, headaches that were severe and my arm that was a bit sore."* (Participant No. 5)

> *"The actual reasons were those persistent headaches and the rash. The doctor gave me strong medication and some ointment to put on, but it did not work for me."* (Participant No. 9)

One (1) participant voiced that she removed the Implanon early because she wanted to conceive. She mentioned that she had not experienced any physical and emotional symptoms but that she was ready to have a baby, therefore she had to remove the Implanon early.

> *"I removed the Implanon sister because I wanted to have another baby. I discussed it with my partner; I need to get done with babies." (*Participant No. 11)

One (1) participant expressed that she removed the Implanon because of drug interaction between the Implanon and the antiretroviral drugs that she took. Although she also mentioned that she had encountered some symptoms, she could tolerate them. The participant mentioned that she went to the hospital as she had dizziness and had fainted. The doctor had then advised her to remove the Implanon as a precaution against drug interactions.

> *"I have removed the Implanon because of my HIV status. I am taking medication for HIV, so doctor advised me that it is not wise to have both medication and the Implanon."* (Participant No. 7)

Participants stated that although friends, family and healthcare workers were aware of the problems they had encountered, it was still the participant's decision to remove the Implanon.

4.3.4.4 Future family planning

Some participants indicated that they had chosen their future family planning method immediately after removing the Implanon. Other participants stated that they preferred to go back to their previous contraceptive methods, for example, injections or pills. One participant

indicated that she would be using the morning after pill as her boyfriend visited only once in a quarter. Some participants expressed that they would be using dual contraceptive methods, for example, the injection in combination with condoms.

> *"Nurses gave me three months' injection* [Depo/Petogen] *but I am also using condoms."* (Participant No. 7)

One (1) participant revealed that she had removed the Implanon because she wanted to have a baby. She stated that she had not experienced any physical or emotional symptoms caused by the Implanon. Therefore, she had removed it early, as she was ready to have a baby.

> *"I am ready to have a baby now, that is why I removed it. Me and my partner have to decide to stop family planning now"* (Participant No.11)

One (1) participant declared that she would have a hysterectomy (total removal of the uterus) for future family planning. An appointment date was given for the procedure to be performed in October 2019.

> *"We talked with my gynae; my future plan is to have a hysterectomy that is my last option."* (Participant No. 4)

Participants mentioned various types of contraceptives that they would use in the future. Although some participants mentioned that they would not use family planning as they wanted to conceive. Most of the participants were provided with the injections after the removal of the Implanon.

4.3.5 Theme 5: Support

Participants mentioned that HCWs, partners, family and friends played a crucial role in supporting them while they experienced physical and emotional symptoms caused by the Implanon. Some participants expressed that although it was their own decision to insert and to remove the Implanon, they had received advice from HCW, friends and partners when they needed it. Two categories encompassed this theme of support, namely social support and healthcare worker support.

4.3.5.1 Social support

Most participants indicated that their partners were not involved in the decision making to insert and to remove the Implanon. Some participants voiced that their partners were not aware that they were using the Implanon as a contraceptive method. However, when they experienced symptoms caused by the Implanon, their partners advised them to remove it.

One (1) participant mentioned that her partner accompanied her when she went to remove the Implanon.

> *"My partner took me by the hand, and he made sure that he was off that day to see that the Implanon is taken out of my body."* (Participant no. 11)

Another participant stated that she had struggled with heavy bleeding for many years, but she indicated that she got the strength from her husband as he had supported her.

> *"He was in favour of that, yes he is supportive as we are together for 25 years and he is aware of the problem that has been there all the time."* (Participant No. 4)

Some participants mentioned that they were advised by their friends to insert the Implanon as a form of family planning. Nevertheless, when they complained about physical and emotional symptoms caused by the Implanon, they were supported by friends who they had confided in.

> *"My friend was worried, and she advised me so many times when I was complaining of those severe headaches."* (Participant No. 9)

The participants mentioned that although their partners were not involved in the decision-making to insert and to remove the Implanon, they provided the support that they needed when they experienced physical and emotional symptoms caused by the Implanon.

4.3.5.2 HCWs support

Participants voiced their views on how they were supported by the HCWs. Most participants expressed that they were given information on the Implanon before they had inserted it. However, some participants complained that they had not received counselling on the physical and the emotional symptoms that they might experience. Some participants mentioned that they had delayed reporting the symptoms experienced as they thought that they would not get assistance from the healthcare workers. Other participants indicated that they received support from healthcare workers when they went to report the symptoms; such as advice and medication for the symptoms experienced.

> *"There was a nurse there [wow] she gave me enough attention like she made me realize that you mustn't just put this thing in, you must know why and why you wanna remove it. She asked me many times why I do wanna (want to) remove it and I explained to her like this thing makes me go on my period like I don't breathe you see…"* (Participant No. 8)

> *"I went to report the symptoms to the nurses immediately and also went to see doctors, but nothing changed."* (Participant No. 5)

Some participants mentioned that although they went to report the symptoms that they had experienced, that they did not get the assistance that they had expected to get.

> *"I understand that they are busy but at least they must try to check what the problem is."* (Participant No. 9)

> *"I cannot say that was even a counselling process. Nurses mentioned that a person will have side-effects, not even said what we must do when we experienced it. Nurses don't have time to explain these things well. I think because they are always busy."* (Participant No. 6)

In summary, participants had different views about the support from HCWs. Some felt that they were not assisted enough with the management of the physical symptoms caused by the Implanon, while others voiced that there was nothing that the nurses could do. Therefore, based on the findings, the participants said that the professional nurses were their source of information and support.

4.4 CONCLUSION

This chapter presented and discussed the findings of the study. The knowledge, the understanding, the physical and the emotional changes experienced after inserting the Implanon. Feelings and emotions, decision-making, and support were the themes that emerged from the study. Overall, the themes and the categories illustrated the experiences of women who had used the Implanon and their reasons for early removal.

The next chapter provides a discussion of the findings in relation to the literature, the limitations and the conclusions.

CHAPTER 5: DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

The researcher has described the aim and the purpose of the study in Chapter 1. A comprehensive literature review was detailed in Chapter 2. The research methodology was presented in Chapter 3 and the findings were described in Chapter 4. This chapter includes the discussion of findings, conclusions and recommendations for further study.

5.2 DISCUSSION

Interpretation refers to the process of giving meaning to the results (Polit & Beck, 2014:52). The aim of the research was to explore the experiences of women who were using sub-dermal contraceptive implant (Implanon) and their reasons that led to early removal. The findings are discussed according to the study objectives.

5.2.1 Objective 1: Experiences of women who have used Implanon

Personal experience is the knowledge that comes from being personally involved in an event, situation or circumstance (Gray *et al*., 2017:10). Every individual experience or perceives occurrences differently and our experiences tend to be informed by our values and preconceptions. The main themes that emerged from the study included knowledge and understanding, the physical and emotional changes after inserting Implanon, feelings and emotions, decision-making and support.

5.2.1.1 Knowledge and understanding of Implanon

In this study, the participants appeared to have some knowledge of Implanon. Most participants were able to identify the appearance of an Implanon. Although it was not expected that participants should explain the whole procedure, they could point out where it was inserted (inner upper arm). Participants indicated that Implanon is a contraceptive that prevents pregnancy for a longer period, namely three (3) years. Most participants mentioned that they acquired their knowledge of Implanon from the nurses through the health education provided during clinic visits and from the pamphlets that were given to them.

Some mentioned that the counselling was inadequate, which is like the data from a study by Asaye *et al.* (2018:2) where women reported inadequate counselling. In support of this, a study by Adeagbo *et al.* (2017:824) stated that providers' perceptions of having received inadequate training on Implanon was the main reason why they could not provide adequate counselling on it.

The most frequent reason why the participants chose Implanon was less frequent clinic visits. They indicated during the interviews that their choice was made because Implanon prevented pregnancy for a longer period. Supporting this, Hubacher *et al.* (2011:416), indicated that women needing longer protection from future pregnancy were more likely to select Implanon.

It was quite difficult to for participants to always attend scheduled follow up appointments after receiving contraceptives. Some participants were working, and others found it challenging to access family planning, due to the distance from where they stayed to the clinic. Therefore, most participants mentioned that less frequent visits were one of the deciding factors in their choosing Implanon.

In this study, the participants viewed Implanon as the best method, compared to other contraceptives. This was based on the information they received from the healthcare workers, prior to commencing Implanon. None of the women mentioned that they were initially concerned about the possible risks of inserting Implanon. In the present study, none of the participants mentioned that they were concerned about returning to fertility. Conversely, in a South African study by Pillay *et al*. (2017:817), it was mentioned that some women were worried about how long it would take for fertility to return after Implanon removal.

Blumenthal *et al*. (2011:278) confirmed in their study that there was no delay in returning to fertility after removal. Isley (2010: 365) shared the same views on the above statement by mentioning that return to normal menstrual cycle was rapid after removal, therefore, if the clients did not have intentions to get pregnant, they needed to commence another form of contraceptive immediately.

None of the participants in the present study mentioned that the healthcare workers gave them information about drug interactions; for example, interactions with antiretroviral drugs. Drug interactions were an important cause of Implanon failures reported in Panday's study (2018:14) in KwaZulu-Natal, South Africa. This study focused on reporting the data and experiences of a family planning department on the rollout of the contraceptive implant. Drug interactions may reduce the efficacy of Implanon. Therefore, women are encouraged to use dual protection to prevent unwanted pregnancy and the spread of infections (Pillay *et al.,* 2017:813).

The present study indicated that participants generally had good knowledge about Implanon and the other types of contraceptives available in South Africa. It is a cause for concern that they mentioned that they had not received enough information about, for example, the management of side-effects.

5.2.1.2 Physical and emotional changes after insertion of Implanon

In this study, the most often reported concern was the physical and emotional changes that were experienced by participants after inserting Implanon. Mostly, they indicated that the changes they experienced were the main reasons for removing Implanon early. These changes were assumed to be side-effects of Implanon, as interpreted by the participants.

Common side-effects of hormonal contraceptives are acne, headaches, mood changes, weight gain, breast tenderness, loss of libido and abdominal pain. The most common side-effects that participants mentioned in the present study was a change in their menstrual bleeding pattern. A study comparing Implanon users with IUD users, conducted by Balogun *et al.* (2014: 1) in Australia, stated that there was more dissatisfaction amongst the Implanon users than the IUD users. However, the side-effects of irregular and heavy bleeding were common for women using IUDs and Implanon.

Contrary to this, a quantitative study that was conducted in Northern America revealed that implant users were more satisfied with their contraceptive method when compared to other methods such as pills and injectables, regardless of the side-effects; even when it was associated with unpredictable bleeding patterns (Nicole *et al*., 2015:337). The authors revealed that participants were not counselled for those possible side-effects but continued with Implanon anyway. Balogun *et al.* (2014:1) reported that the high discontinuation rate of Implanon in a study in Nigeria was due to side-effects such as bleeding irregularities, acne, mood changes and the desire to fall pregnant. Similarly, a study that was done in South Africa, East London by Mrwebi *et al*. (2018:1) found that side-effects such as heavy bleeding, severe headache and a painful arm were the main reasons for the discontinuation of the Implanon. Nageso and Gebretsadik (2018:189) observed in their study that women who did not have enough information on contraceptives and their various side-effects, were more likely to remove Implanon early.

5.2.1.3 Feelings and emotions

The participants displayed positive and negative feelings and emotions about Implanon. Positive feelings were related to the perceived benefits of Implanon and were experienced initially during the commencement of Implanon. Negative feelings were mostly linked to side-effects that were perceived to be triggered by Implanon.

Although most participants mentioned that they tried to cope with the side-effects by self-medicating or waiting to see if it resolved itself, the negative impact that the side-effects had, led them to remove Implanon. A South African study by Potgieter *et al.* (2018:3) stated that adverse effects had caused fears and confusion about the harms and benefits of using

Implanon. The authors postulated that the confusion was caused by the contradiction of information from the healthcare workers and the peers of participants. Therefore, women's beliefs and perceptions about Implanon can be influenced by the healthcare workers' counselling approach, product promotion and information sharing.

In the present study, most participants verbalized that physical and emotional symptoms that were experienced affected their personal needs. These needs included finances, sexual relations and self-image. Many of the participants reported that Implanon was not "right for their body" and that they were annoyed and disappointed. These feelings and emotions led them to believe that it would be better to remove Implanon and contributed to the women developing a negative attitude towards using Implanon. No studies could be found that reported the influence of Implanon side-effects on women's personal needs or attitudes. The Theory of Planned Behaviour holds that a person's attitude influences their intentions and behaviours (Conner, 2010:2).

5.2.2 Objective 2: Reasons for early removal of sub-dermal implant (Implanon)

Participants mentioned different reasons for removing Implanon early. Participants in the present study experienced side-effects from as early as two (2) weeks after insertion, but they only removed Implanon between six (6) months and one (1) year and eight (8) months after insertion. None of the women in the present study therefore used Implanon for more than two (2) years.

5.2.2.1 Decision-making on insertion and removal

Although women were permitted to choose their own contraceptives, when Implanon was introduced in South Africa, concerns arose that contraceptive users were not being given an adequate choice of methods, because Implanon was strongly promoted (Pleaner, Morroni, Smit, Lince-Deroche, Chersich & Mullick, and 2017:933).

It was reflected in the present study that most participants removed Implanon early because they had experienced physical and emotional symptoms that they perceived to be side-effects. The side-effects that were cited in the present study included heavy and irregular bleeding, severe headaches, thick and heavy discharge, painful arms and backache. Heavy or irregular bleeding and severe headaches were the most common side-effects reported that contributed to early removal of Implanon. In support of the study findings, Evans, Espey. Ogburn and Zite (2018:538) reported irregular bleeding as the main adverse event associated with contraceptive implants.

Similarly, to this, Patel (2014:3) reported a change in bleeding pattern as the main reason for women discontinuing the use of Implanon, especially if not counselled during insertion. In agreement with the current study, Madungu *et al.* (2015:271) expressed bleeding disturbances (frequency, amount and duration) as the main side-effects associated with the contraceptive implant. The study of Mrwebi *et al*. (2018:113) also highlighted that side-effects such as heavy bleeding, severe headaches, and a painful arm, were the main reasons that were highlighted for early removal of Implanon.

The participants in the present study indicated that they had experienced headaches as a side-effect of Implanon. Similarly, to this Madden *et al*. (2012:18) reported headaches related to Implanon use as being one of the concerns raised by participants that led to removal. The National Contraceptive Guidelines (NDoH, 2012a:33) documented headaches as being one of the side-effects associated with Implanon.

Some participants in the study expressed that they had gained weight after commencing Implanon. Kakaire, Nakiggude, Lule and Byamugisha (2014:1092) reported weight gain as one of the reasons that led to early removal of Implanon. Weight changes have been associated with Implanon usage in the National Contraceptive Guidelines (NDoH, 2012a:33)

It was further reported in the present study that the desire to fall pregnant was another reason for early removal of Implanon. No participants reported having removed Implanon due to falling pregnant while on the Implanon. Madden *et al.* (2012:18) reported that two participants became pregnant while on Implanon. Non-insertion of the device in implant users is the most likely cause of pregnancy following incorrect insertion of the implant (Evans, Espey, Ogburn & Zite, 2018:541). Madungu *et al.* (2015:270) also reported no incidence of pregnancy during their study period (June 2009 to November 2013).

The participants of the present study mentioned that their partners did not influence them to insert or remove Implanon. Some participants stated that they have personal autonomy because they have a right to choose what is the best for their bodies. Contrary to this finding, Mutihir and Nyango (2010:463) mentioned that a husband's approval contributed to the early removal of Implanon. Madungu *et al*. (2015:280) also stated that sometimes, the pressure that the women received from their partners led to the early removal of the Implanon. Although the women in the present study claimed personal autonomy over their decisions, some did mention that their sexual intimacy was affected and that their husbands approved of them removing Implanon.

One participant in the present study reported that she had removed Implanon early because the doctor had alerted her to the drug interaction between Implanon and her antiretroviral

drugs. She said that this was not mentioned upon insertion, but that when she started to experience irregular bleeding, the doctor advised her to remove the Implanon. The National Strategic Plan (NSP) on HIV, Sexually Transmitted Infections and Tuberculosis (2017-2022) stated that Implanon was not recommended for people taking efavirenz as that could decrease the efficacy of Implanon.

Although most participants were aware that Implanon is associated with changes in bleeding patterns, there was a participant in the present study who used Implanon as a last resort to relieve her heavy bleeding. This participant felt that Implanon might stop her bleeding as she had unsuccessfully tried various forms of contraceptive methods to control the bleeding. Unfortunately, her bleeding only subsided for a few months.

A study that was conducted by Flore (2016:743) in Australia indicated that Implanon can cause amenorrhoea. It is also mentioned in the National Contraceptive Guidelines (DoH, 2012:15) that amenorrhoea is a side-effect of Implanon.

Perceived behavioural control refers to the woman's ability to make her own decision, her perception of her own autonomy and her confidence to perform a certain behaviour (Conner, 2010:2). In the context of this study, it is contended that a woman should not be influenced by friends, family or healthcare workers to insert or remove Implanon. She should have control over her behaviour and her ability to utilise services of inserting or removing Implanon. This invariably leads to the intention of performing the behaviour. The behaviour that is performed is the early removal of Implanon; either influenced by family or friends or by making her own decision.

5.2.2.2 Support

Many of the participants in the present study, expressed that they did not receive proper guidance from the nurses regarding the management of side-effects. Some participants complained about the negative attitudes of nurses when they went to report side-effects at the clinics. The study by Hoggart *et al*. (2013:636) expressed that women should be given more support and should be made aware of all the possible side-effects once the implant is in place.

To support women's contraceptive choices, clinicians need to accept that some women are unable to tolerate the implant. The healthcare providers must be able to deal with side-effects and manage them to encourage the retention of Implanon. This was confirmed by Adeagbo *et al*. (2017:822) in South Africa, assessing perceptions and attitudes of healthcare workers on the uptake and early removals of Implanon in South Africa; where it was cited that nurses lacked confidence in providing implant services effectively, particularly removals, which they ascribed to the brief and insufficient training received. The authors recommended that

providers require guidance on counselling regarding the method and standardized guidelines on the management of side-effects. It is indicated in the National Contraception and fertility Planning Policy (NDoH, 2012a:33) that men must be involved in contraception to encourage shared responsibility and participation among partners. This means that if men are involved in family planning, it could be easy for them to accept and understand side-effects such as irregular bleeding, weight gain and acne experienced by women.

In the present study, it was highlighted that though the partners were not involved in family planning issues, they supported the participants when they were struggling with side-effects caused by Implanon. Subjective norms refer to views about whether most people support or dislike of the behaviour (Conner, 2010:2). In this case, there could be perceptions that family and friends are supportive of a plan for early removal of Implanon.

5.3 RECOMMENDATIONS

5.3.1 Pre-insertion and continuous counselling

It is important that women are counselled before commencing any form of contraceptive. Pre-insertion counselling should empower women towards making an informed decision on discontinuation and transition to other options (Mrwebi *et al.,* 2018:113). The study of Wong, Bell,Thununguntla, McNamee and Vollenhoven (2009:452) recommended that a discussion on side-effects should be included when counselling women about long-term reversible contraception, inclusive of Implanon. Asaye *et al.* (2018:1) commented that counselling about Implanon side-effects and follow-up with Implanon users should be encouraged, to increase retention levels of Implanon.

The counselling must be done continuously, because some women experience side-effects at a later stage. Therefore, healthcare providers must be able to provide support when consulted for the complaints of side-effects. A few healthcare practitioners who are passionate about women's health are needed to make a huge and lasting difference in the lives of the women (Panday, 2018:14).

5.3.2 Clear guidelines on management of side-effects

Public health interventions and communication campaigns should emphasize the side-effects, safety, and increased effectiveness of Implanon. Assessment of clients before commencing Implanon should be performed according to the National Contraceptive Guidelines, as mentioned in Chapter 2.

5.3.3 Training of HCWs

It is vital to equip HCWs with the required skills of insertion and removal of Implanon before they are given the responsibility to provide FP services. Good clinical governance should be upheld by every health care unit and managers should insist on proper data collection (Panday, 2018:16). Retraining and support of providers are needed to address competency gaps and negative attitudes towards the methods. The HCWs' readiness to perform removal must be assessed.

A study by Petro (2017:3) where this present research was conducted, recommended that healthcare providers must ensure the safe and efficient removal of contraceptive implants and must provide a repeat insertion at the same time, if the patient requests it.

In support of the above study (Panday, 2018:16) recommended that support and mentorship should be available to all primary care facilities with clear and simple referrals available for complicated cases. There should be on-going mentorship of trained HCWs, followed by monitoring and evaluation of the service.

5.3.4 Patient and family centred approach to service delivery

Strategies to increase the involvement of men in reproductive health, particularly in family planning discussions, will reduce the social communication barrier surrounding FP and will empower women better regarding contraceptive use.

5.4 LIMITATIONS OF THE STUDY

Qualitative methods offered a rich understanding on the experiences of women and their reasons for the early removal of Implanon. Although the study provided a robust analysis of women's experiences of using Implanon as a contraceptive, some limitations were noted.

All the participants were drawn from New Somerset Hospital and Du Noon community health centre. Therefore, the findings of the study cannot be generalised to demographically or geographically dissimilar populations.

5.5 FUTURE RESEARCH

Exploration of experiences and attitudes of healthcare providers in rendering Implanon is recommended. The effectiveness and cost-effectiveness of the Implanon training programme and its sustainability in the public sector, should be explored to inform policy makers in the NDoH, regarding capacity development of staff. Future research should seek a more varied sample, including diversity of race, age, sexual orientation and geographical location.

5.6 CONCLUSION

Contraception is one way to empower women to take control of their lives and future. It is vital to equip women with knowledge about all different types of contraceptives for them to make informed choices. Healthcare providers should be guided by the National Contraceptive Guidelines in rendering sexual and reproductive health to women. Lack of knowledge can lead to poor uptake and use of all methods of contraception. Implanon is convenient and highly effective in preventing pregnancy.

The present study revealed that although some participants showed that they had a paucity of information regarding Implanon, most participants demonstrated a good understanding of Implanon. Although the participants indicated different reasons for early removal of Implanon such as side-effects, readiness to conceive and drug interactions, the main reason that was highlighted was the side-effects that could not be managed well by the healthcare providers.

The provision of quality contraceptive health services is vital to ensure that there is a strong healthy system. This involves improved access, expanded choice, quality care, staff training and continuous efficient commodity supply.

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APPENDICES

APPENDIX A: INTERVIEW GUIDE

Socio Demographic Information

Age:

Ethnic Group:

Gravity, Parity:

Single / Married:

Unemployed / Student / Educational Level:

Information on Implanon Removal

1. **Can you tell me your experiences of using Implanon?** (Your decision to use Implanon. What it does. How does it work? How long does it last? The insertion of the Implanon. The counselling and the process. After you went home were there any challenges? Did you report them? What did the nurses do or say?).
2. **Elaborate on the reasons why you decided to remove the Implanon early, before the three (3) year cycle was completed?** (Probing questions such as, side-effects experienced, the influence of your family, your friends and your partner on the use and the removal of Implanon. Have your personal needs changed? Was there any involvement from your partner in the decision of early removal?).

APPENDIX B: PARTICIPANT INFORMATION LEAFLET AND CONSENT FORM

TITLE OF THE RESEARCH PROJECT: The experiences of women who have used the sub-dermal contraceptive implant (Implanon) and their reasons that led to the early removal in the Cape Metropole, Western Cape.

REFERENCE NUMBER: 16919599

PRINCIPAL INVESTIGATOR: Sylvia Nompucuko Hlana

ADDRESS: 29 Sonnendal Street, Marinda Park, Kuilsriver, 7580

CONTACT NUMBERS: 073 663 4927 / 021 903 1993 / 021 684 1252

You are invited to take part in a research project. Please take some time to read the information presented here, which will explain the details of this project. Please ask the study staff or the doctor any questions about any part of this project that you do not fully understand. It is very important for us to know that you are fully satisfied; that you clearly understand what this research entails and how you could be involved. Also, your participation is **entirely voluntary,** and you are free to decline to participate. If you do decline, this will not affect you negatively in any way whatsoever. You are also free to withdraw from the study at any point, even if you have already agreed to take part in this study.

This study has been approved by the **Health Research Ethics Committee at Stellenbosch University** and it will be conducted according to the ethical guidelines and the principles of the International Declaration of Helsinki, South African Guidelines for Good Clinical Practice and the Medical Research Council (MRC) Ethical Guidelines for Research.

What is this research study all about?

My name is Sylvia Nompucuko Hlana, I am a master's student conducting research at the University of Stellenbosch. The purpose of this research project is to explore the experiences of women who have used the sub-dermal contraceptive implant (Implanon) and their reasons for the early removal in the Cape Metropole, Western Cape. This study will be conducted in a place suitable for you as a participant. The total number of participants for this study will be between ten to fifteen (10 to 15). Data will be collected with the use of semi-structured individual in-depth interviews (face to face) that will be conducted by the researcher. Interviews will be audio taped and transcribed later by the researcher. The interview will be done in the language of your choice. An interpreter will be arranged if the researcher does not understand your language. If you consent to participate in the study, you will be interviewed with the use of an interview guide. General questions such as your age, your education level, your occupation, your marital status and your parity (the number of children that you have) will be asked, followed by other specific questions about your experiences with the sub-dermal implant (Implanon).

Why have you been invited to participate?

You have been contacted to participate because we want to interview people who have had experience on the use of the Implanon and who have removed it before the two and half to three (2.5 to 3) years of use has expired. We will interview a few women who have had such experiences.

What will your responsibilities be?

After signing the consent form, we will contact you to arrange for an interview at a safe place and at a time that suits you. Your only responsibility is to answer the questions that are asked by the researcher from the interview guide. This will take approximately forty to sixty (40 to 60). There are no other further responsibilities after you have answered all the questions from the interview guide. You may decide not to answer any questions that you do not feel comfortable with. We will try to answer any questions that you may have about the interview.

Will you benefit from taking part in this research?

There will be no personal benefits from the study, but we hope that the results of the research can assist in improving the counseling for women who use Implanon.

Are there in risks involved in your taking part in this research?

There may be some risks resulting from participating in this research study, such as feeling uneasy or feeling too embarrassed to respond to some of the questions. We will however minimise such risks and we will act promptly to assist you if you experience any discomfort; psychological or otherwise, during the process of your participation in this study. An appropriate referral will be made to a suitable professional for further assistance or for intervention if you need it.

If you do not agree to take part, what alternatives do you have?

It is entirely up to you to decide whether you want to take part or not. If you decide to take part, you are still free to stop at any time without giving a reason why. No questions will be asked if you do stop. The care at the clinic will not be influenced if you do decide to stop.

Who will have access to your information?

The researchers will undertake to protect your identity and the nature of your contribution. Only my supervisor and I will have access to the recorded information from the interviews. The interviews will be locked away and the information on the tapes will be destroyed after the interviews have been transcribed. To ensure your anonymity, your name will not be included on the recorded interview but will be replaced with a study number that will act as an identification code. Only the researcher will have access to knowing how the identification code links to a person who was interviewed.

To ensure your confidentiality, the information received during the interview will remain confidential between the participant and the researcher. The information collected will be locked away in a safe place, and only the researcher will have access to the records. Only identification codes will be used on transcribed interviews. The consent forms that the participants interviewed have signed will be kept separate from the transcribed interviews, so that the two are not linked.

What will happen in the unlikely event of some form of injury occurring as a direct result of your taking part in this research study?

There are no possible injuries that might arise as a result of you taking part in this research study.

Will you be paid to take part in this study and are there any costs involved?

No, you will not be paid to take part in this study, but your transport and your meal costs will be covered for each study visit. There will be no costs involved for you if you do take part.

Is there anything else that you should know or that you should do?

There are no further obligations involved in this study. If there are any further uncertainties the respondent will be given an opportunity to ask questions about the study. The researcher will be available at all times to answer your questions on the telephone numbers 073 663 4927 or 021 684 1252 / 021 903 1993. The researcher's supervisor's numbers are 076 945 3993 or 021 938 9593.

You can contact the Health Research Ethics Committee at 021 938 9207 if you have any concerns or any complaints that have not been adequately addressed by the researcher. You will receive a copy of the information and the consent form for your own records.

Is there anything else that you should know or that you should do?

There are no further obligations involved in this study. If there are any further uncertainties the respondent will be given an opportunity to ask questions about the study. The researcher will be available at all times to answer your questions on the telephone numbers 073 663 4927 or 021 684 1252 / 021 903 1993. The researcher's supervisor's numbers are 076 945 3993 or 021 938 9593.

You can contact the Health Research Ethics Committee at 021 938 9207 if you have any concerns or any complaints that have not been adequately addressed by the researcher. You will receive a copy of the information and the consent form for your own records.

Declaration by the Participant

By signing below, I ..... agree to take part in a research study entitled *(*The experiences of women who have used the sub-dermal contraceptive implant (Implanon) and their reasons that led to the early removal in the Cape Metropole, Western Cape).

I declare that:

- I have read or I have had read to me, the information and the consent form and it is written in a language with which I am fluent and comfortable with.
- I have had a chance to ask questions and all my questions have been adequately answered.
- I understand that taking part in this study is **voluntary** and that I have not been pressurised to take part in any way.
- I may choose to leave the study at any time, and I will not be penalised or I will not be prejudiced in any way.
- I agree to the audio recording of the interview.

Signed at (*place*) ..... on (*date*) ..... 2019.

....

Signature of the Participant **Signature of the Witness**

Declaration by the Researcher

I Sylvia Nompucuko Hlana declare that:

- I have explained the information in this document to .....
- I have encouraged him or her to ask questions and that I have taken adequate time to answer the questions.
- I am satisfied that he or she adequately understands all the aspects of the research, as discussed above with him or her.
- I did/did not use an interpreter. (*If an interpreter is used then the interpreter must sign the declaration below).*

Signed at (*place*) ..... on (*date*) ..... 2019.

....

Signature of the Researcher **Signature of the Witness**

Declaration by the Interpreter

I *(name)* ..... declare that:

- I have assisted the researcher **Sylvia Nompucuko Hlana** to explain the information pertained within this document to (*name of participant*) ..... by using the language medium of Afrikaans / Xhosa.
- I and the researcher encouraged him or her to ask questions and that we took adequate time to answer the questions.
- I conveyed a factually correct version of what was related to me to the researcher.
- I am satisfied that the participant fully understands the content of this informed consent document and that he or she has had all his or her question satisfactorily answered.

Signed at (*place*) ..... on (*date*) ..... 2019.

.....	.....
Signature of the Interpreter	**Signature of the Witness**

APPENDIX C: SHORT INFORMATION LEAFLET TO BE USED BY HEALTHCARE PROVIDER

You are invited to participate in a study to explore the experiences of women who have used the sub-dermal implant (Implanon) and now want to remove it before two and a half to three (2.5-3) years expiry period. The researcher, who is a master's student at Stellenbosch University, would like to ask you some questions about your experiences of using Implanon and why you would like to remove it. You will be asked to participate in an interview of approximately 40-60 minutes at a time and place of your choice.

You will be referred to the researcher on the day that you come to remove the Implanon if you would like to receive more information about this study. If you are then still willing to participate, a date and time for the interview will be scheduled.

Would you like to be referred to receive more information about this study?

☐Yes

☐No

Name and surname of client: _____

Contact number: _____

Scheduled date for removal: _____

Signature of client: _____

Date: _____

Signature of health care provider: _____

Date: _____

APPENDIX D: EXTRACT FROM INTERVIEW

Interview no.07 (code 07): 17/08/2019

Time taken: 46 minutes

Age: 32 years

Race: Black

Marital status: Single

No. of children: 02

Date of insertion: May 2018

Date of removal: 17 August 2019

Interviewer: Good afternoon.

Participant: Good afternoon to you too.

Interviewer: How are you?

Participant: I'm fine and you?

Interviewer: I'm good, thank you for asking. For confidentiality purposes, is it fine if I can give you a false name and call you [redacted]

Participant: [laughs]It's fine, no problem.

Interviewer: Ok, I would like you also to relax and feel comfortable. I don't want our interview to feel tense, so you can call me Sylvia.

Participant: Ok Sylvia

Interviewer: As I told you, my name is Sylvia Hlana, a lecturer at Western Cape of Nursing but also a student at University of Stellenbosch. I am currently busy with my study on the experiences of women who have used Implanon and their reasons that led to early removal. There is no right or wrong answer and I won't judge you for the answers that you will give me. Thank you for giving me this opportunity to ask questions regarding your experiences. As I said earlier on, you are still free not to answer questions that you are not comfortable with. Is it still fine with you?

Participant: It's fine Sylvia, we can continue.

Interviewer: Ok, can you please tell me about yourself, who is [redacted]

Participant: Ok, I'm [redacted] 32 years old, mother of two (2) children, single, originally from Congo but I am here in South Africa for eight (8) years now. I am staying with my partner and my kids in Du noon. My mother is also here but my dad passed away long time, he was sick. I have my own saloon, doing people's hair[chuckles].

Interviewer: Oh, okay, what race are you? I don't want to assume.

Participant: Oh, [laughs] I am black from Congo, a Congolese, I am not sure if that is what you are asking?

Interviewer: Yes, perfect. Can you tell me your educational level?

Participant: Ok; I passed standard 10, I think they called it matric this side. I wanted to be a lawyer but there was no money. I had to do some jobs, then I came to South Africa, opened my saloon here ever since 2011. It has not been easy Sylvia but I am not complaining because it is doing well, though sometimes people don't have money.

Interviewer: What religion to you belong to?

Participant: I am a Christian, attending at Evangelist Church in Parklands.

Interviewer: Ok, let's come to the questions of Implanon. What comes to your mind when you hear about contraceptives?

Participant: Yhoo [sigh]There is a lot. Contraception is the way of preventing pregnancy. Nurses either give you an injection, a pill, condoms, the loop [Intra uterine contraceptive device] or Implanon. If you do not want to have babies or you are not ready, the nurses will offer one of them to prevent pregnancy.

Interviewer: How are your beliefs in contraceptives?

Participant: Contraceptives are good Sylvia. Yhoo[sigh], the world can be full of un wanted babies if there were no contraceptives. People will not stop having sex, so without contraceptives, they will get pregnant. We really cannot survive without contraceptives.

Interviewer: How old were you when you started using contraceptives?

Participant: I think I was twenty-three (23) years that time.

Interviewer: What triggered or influenced you to start contraceptives?

Participant: I had my first boyfriend at that time, so I did not want to have a baby. Some of my friends were using contraceptives already, so we were talking about these things. Even my mother was encouraging me to go to the clinic for contraceptives because of our situation at home, she did not want to have a grandchild that time.

Interviewer: Ok, if I hear you well, you were twenty-three (23) years old, when you started contraceptives and you commenced because you were in a relationship already. The reason you started, you did not want babies that time; and your mother was also not ready to be grandmother. Is that correct?

Participant: That's correct Sylvi.

Interviewer: What were you using before Implanon? Can you tell me the challenges that you had with those previous choices?

Participant: Ok, I started with the two (2) months' injection [Nur-Isterate]. I think I used it for almost three (3) years then later it gave me problems. I was having irregular periods, my face developed pimples (acne); It was making me fat also. I had so many problems with that one. Then I decided to use pills, I think they called it Triphasil. Things became better with pills but after three (3) months of using them, I became pregnant [laughs]. I used to forget them a lot and the following day I would take two (2) trying to make up, but that did not help, it was too late. It is very difficult to comply with pills because nurses said you must exactly take them at the same time.

Interviewer: Oh, okay; After you got pregnant, what happened, can you elaborate for me.

Participant: After my first baby, the nurses gave me a three (3) months' injection [Depo /Petogen]. I had some problems but not as bad as that two (2) months' injection [Nur-Isterate]. I used it that three months' injection then my new partner wanted a baby. I was here in South Africa already; my baby was delivered in Somerset hospital. So I stopped the three months because I wanted the baby. Immediately after my baby was born, they ask me which contraceptive I would I use and I told them I wanted my three months'

injection. The nurses explained about the loop [Intra uterine contraceptive device] and the Implanon as well as the injections and pills, then I decided to take Implanon.

Interviewer: What made you to choose Implanon?

Participant: When the nurses explained all those types of contraceptives, Implanon seemed to be the best.

Interviewer: Seemed to be the best; can you please elaborate on that?

Participant: Ok, it means the things that the nurse said about Implanon stays for three years in your body and you can never fall pregnant while using it. She said that although Implanon has some side effects, it is not always the case. You don't have to come to the clinic quite often for follow ups.

Interviewer: Okay, can you please take me from the day when you decided to use the Implanon as a contraceptive, like who inserted it, where and when?

Participant: Mmmm [sigh]; ok, as soon as I delivered my baby in Somerset, doctor came and inserted the Implanon. I told the sister in labour ward after my child was delivered that I will be using Implanon. So doctor came to insert it in my arm in a private room.

Interviewer: How could you describe it to the person or a friend who do not know much about Implanon?

Participant: I will tell her that Implanon is a small thing like a match stick, feels like a pipe that the nurses or doctors insert in your arm underneath the skin. I will tell the friend that before they insert it, they put local in that area so that you do not feel the pain because when they are inserting it, they use something like a needle. I will inform the friends that the Implanon prevents pregnancy for three (3) years.

Interviewer: Okay; if I remember well, you said you are staying with your partner, did he have an influence on you in choosing Implanon?

Participant: Not at all but in removing it, he accompanied me to see that I have really taken it out.

Interviewer: Oh, ok, so your partner is supporting you on your choices of family planning?

Participant: Yes, Sylvia, especially with Implanon, he was really concerned. I have a good man; he always stands by my side no matter what. My first child does not belong to him but the second one is his. Now we are thinking of having another one [laughs].

Interviewer: Okay, what were your experiences with the Implanon?

Participant: I can say my experiences were not bad at all on my side, though people are saying bad things about it. To tell you the truth Sylvia, I experienced some few things like spotting, my arm was feeling numb and itchy sometimes, but it was something that I could tolerate.

Interviewer: Can you please elaborate for me, what do you mean when you are saying that was something that you can tolerate, were you somehow bothered by these side effects that you were experiencing?

Participant: You know Sylvia, the nurses told us that we will be having side effects with Implanon, like any other contraceptives. Therefore, I was already aware and prepared that I will have them. The truth is, sometimes I was uncomfortable, so many times I was thinking of removing the Implanon. You know when people are saying negative things about something, you also realize that what they are saying is true sometimes.

Interviewer: Oh, okay. What were the people saying that is negative about Implanon?

Participant: Yhoo[sigh]. People are saying lot of things about Implanon. Most of my friends removed it because they were sick after they have inserted it. They always complain of heavy bleeding, some say they are gaining weight, pimples [acne] and headaches. There are also rumors now that the skolies[criminals] are taking it out and smoke it.

Interviewer: Do you think your friends have an influence in you regarding early removal of your Implanon?

Participant: No Sylvia, they told me about their experiences but I told myself I won't be influenced by them. I have removed the Implanon because of my HIV status. I am taking medication for HIV so doctor advised me that it is not wise to have both medication and Implanon. Besides that, I also have experienced those minor side effects like irregular periods, arm that is itchy, painful and numb sometimes.

Interviewer: Didn't the doctor know that your HIV status is positive when she or he inserted the Implanon? You said it was inserted by the doctor if I am correct.

Participant: Yes, you are correct, it was inserted by the doctor. I think the doctor knew but he did also not say anything that day if I was not supposed to use it or not. He saw my status on the folder.

Interviewer: What information did the nurses give you regarding Implanon and HIV medication?

Participant: Yhoo [laughs]. I don't remember them talking about HIV and Implanon. Maybe they said something but I don't remember. When I told the sister that I want Implanon, she told us to wait for the doctor to come insert it. We were 3 patients waiting, then doctor came later and we went in the side room one by one to insert the Implanon, so nothing was said about medication and Implanon.

Interviewer: For how long have you been on Implanon before you took it out?

Participant: I have inserted it in May 2018, then I removed it on the 17/08/2019. That means I had it for a 1 year 6 months.

Interviewer: Okay; in that one (1) year six (6) months that you have it, were you happy about your choice?

Participant: Yes, I was happy Sylvia. I can speak for my own experience, it is not too bad compared to others but compared to others but with those minor side effects sometimes a person maybe uncomfortable and decide to remove it.

Interviewer: I hear you are saying they were minor side effects on your side; did you ever go report them to the nurses?

Participant: Not really as I thought they were just minor effects, they will disappear. You must always have a valid reason to go to the clinic Sylvia. It is not that easy as you think. That Du noon clinic is always full and nurses are busy. Some nurses have attitude; to come to tell them that your arm is itchy and your periods are irregular must be something that you are really sure about [laughs]. So I did not report those side effects

Interviewer: Do you feel that you were not going to be supported when you go report because they are busy?

Participant: Yhoo, Sylvia, you don't know. People go there for serious cases and they come back with no medication. That is why I never bother to go to report and told myself to cope with those side effects.

APPENDIX E: ETHICAL APPROVAL

Approved

Response to Modifications

04/04/2019

Project ID #: 9135

HREC Reference #: S19/02/033

Title**:** The experiences of women who have used sub-dermal contraceptive implant(Implanon) and their reasons that led to early removal in the Cape Metropole,Western Cape.

Dear Miss Sylvia Hlana

The **Response to Modifications** received on 25/03/2019 11:34 was reviewed by members of the **Health Research Ethics Committee (HREC)** via Minimal Risk Review procedures on 04/04/2019 and was approved.

Please note the following information about your approved research protocol:

Protocol Approval Period: **04-April-2019-03-April-2020**.

Please remember to use your HREC reference number (S19/02/033) on any documents or correspondence with the HREC concerning your research protocol.

Translation of the consent document/s to the language applicable to the study participants should be submitted.

Please note that this decision will be ratified at the next HREC full committee meeting. HREC reserves the right to suspend approval and to request changes or clarifications from student applicants. The coordinator will notify the applicant (and if applicable, the supervisor) of the changes or suspension within 1 day of receiving the notice of suspension from HREC. HREC has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

After Ethical Review:

Please note a template of the progress report is obtainable on https://applyethics.sun.ac.za/Project/Index/14130 and should be submitted to the Committee before the year has expired. The Committee will then consider the continuation of the project for a further year (if necessary). Annually a number of projects may be selected randomly for an external audit.

Provincial and City of Cape Town Approval

Please note that for research at a primary or secondary healthcare facility permission must still be obtained from the relevant authorities (Western Cape Department of Health and/or City Health) to conduct the research as stated in the protocol. Contact persons are Ms Claudette Abrahams at Western Cape Department of Health (healthres@pgwc.gov.za Tel: +27 21 483 9907) and Dr Helene Visser at City Health (Helene.Visser@capetown.gov.za Tel:+27 21 400 3981). Research that will be conducted at any tertiary academic institution requires approval from the relevant hospital manager. Ethics approval is required BEFORE approval can be obtained from these health authorities.

We wish you the best as you conduct your research.

For standard HREC forms and documents please visit:

https://applyethics.sun.ac.za/Project/Index/14130 If you have any

questions or need further assistance, please contact the HREC office at

021 938 9677.

Sincerely,

Melody Shana,

Coordinator,

HREC1.

Federal Wide Assurance Number: 00001372

Institutional Review Board (IRB) Number: IRB0005239

The Health Research Ethics Committee complies with the SA National Health Act No.61 2003 as it pertains to health research and the United States Code of Federal Regulations Title 45 Part
46. This committee abides by the ethical norms and principles for research, established by the Declaration of Helsinki, the South African Medical Research Council Guidelines as well as the Guidelines for Ethical Research: Principles Structures and Processes 2015 (Department of Health).

INVESTIGATOR RESPONSIBILITIES

Protection of Human Research Participants

Some of the responsibilities investigators have when conducting research involving human participants are listed below:

- Conducting the Research: You are responsible for making sure that the research is conducted according to the HREC approved research protocol. You are also responsible for the actions of all your coinvestigators and research staff involved with this research.
- Participant Enrolment: You may not recruit or enrol participants prior to the HREC approval date or after the expiration date of HREC approval. All recruitment materials for any form of media must be approved by the HREC prior to their use. If you need to recruit more participants than was noted in your HREC approval letter, you must submit an amendment requesting an increase in the number of participants.
- Informed Consent: You are responsible for obtaining and documenting effective informed consent using **only** the HREC approved consent documents, and for ensuring that no human participants are involved in research prior to obtaining their informed consent. Please give all participants copies of the signed consent documents. Keep the originals in your secured research files for at least fifteen (15) years.
- Continuing Review: The HREC must review and approve all HREC approved research protocols at intervals appropriate to the degree of risk but not less than once per year. There is **no grace period**. Prior to the date on which the HREC approval of the research expires, **it is your responsibility to submit the continuing review report in a timely fashion to ensure a lapse in HREC approval does not occur.** If HREC approval of your research lapses, you must stop new participant enrolment, and contact the HREC Office immediately.
- Amendments and Changes: If you wish to amend or change any aspect of your research (such as research design, interventions or procedures, number of participants, participant population, informed consent document, instruments, surveys or recruiting material), you must submit the amendment to the HREC for review using the current Amendment Form. You **may not initiate** any amendments or changes to your research without first obtaining written HREC review and approval. The **only exception** is when it is necessary to eliminate apparent immediate hazards to participants and the HREC should be immediately informed of this necessity.
- Adverse or Unanticipated Events: Any serious adverse events, participant complaints, and all unanticipated problems that involve risks to participants or others, as well as any research-related injuries, occurring at this institution or at other performance sites must be reported to the HREC within **five (5) days** of discovery of the incident. You must also report any instances of serious or continuing problems, or non-compliance with the HREC's requirements for protecting human research participants. The only exception to this policy is that the death of a research participant must be reported in accordance with the Stellenbosch University Health Research Ethics Committee Standard Operating Procedures www.sun25.sun.ac.za/portal/page/portal/Health_Sciences/English/Centres%20and%20Institutions/Research_Development_Support/Ethics/Application_package. All reportable events should be submitted to the HREC using the Serious Adverse Event Report Form.
- Research Record Keeping: You must keep the following research-related records, at a minimum, in a secure location for a minimum of fifteen years; the HREC approved research protocol and all amendments; all informed consent documents; recruiting materials; continuing review reports; adverse or unanticipated events; and all correspondence from the HREC.
- Reports to the MCC and Sponsor: When you submit the required annual report to the MCC or you submit a required report to your Sponsor, you must provide a copy of that report to the HREC. You may submit the report at the time of continuing HREC review.
- Provisions of Emergency Medical Care: When a physician provides emergency medical care to a participant without prior HREC review and approval, to the extent permitted by law, such activities will not be recognized as research nor will the data obtained by any of such activities be used in support of research.
- Final Reports: When you have completed (no further participant enrolment, interactions, interventions or data analysis) or stopped work on your research, you must submit a Final Report to the HREC.

On-Site Evaluations, MCC Inspections, or Audits: If you are notified that your research will be reviewed or audited by the MCC, the Sponsor, any other external agency or any internal group, you must inform the HREC immediately of the impending audit/evaluation.

APPENDIX F: INSTITUTIONAL APPROVAL 1

Health Impact Assessment
Health Research sub-directorate
Health.Research@westerncape.gov.za
tel: +27 21 483 0866: fax: +27 21 483 9895
5th Floor, Norton Rose House, 8 Riebeek Street, Cape Town, 8001
www.capegateway.gov.za)

REFERENCE: WC_201904_012
ENQUIRIES: Dr Sabela Petros

Stellenbosch University

Tyherberg Hospital

Parow

Cape Town

7305

For attention: Ms Sylvia Hlana, Dr Talitha Crowley

Re: **The experiences of women who have used the sub-dermal contraceptive implant (Implanon) and their reasons for the early removal in the Cape Metropole, Western Cape**

Thank you for submitting your proposal to undertake the above-mentioned study. We are pleased to inform you that the department has granted you approval for your research.

Please contact the following person to assist you with any further enquiries in accessing the following sites:

New Somerset Hospital	**Dr Gregory Petro**	**021 402 6464**

Kindly ensure that the following are adhered to:

1. Arrangements can be made with managers, providing that normal activities at requested facilities are not interrupted.
2. By being granted access to provincial health facilities, you are expressing consent to provide the department with an electronic copy of the final feedback (**annexure 9**) within six months of completion of your project. This can be submitted to the provincial Research Co-ordinator (Health.Research@westerncape.gov.za).

3. In the event where the research project goes beyond the *estimated completion* date which was submitted, researchers are expected to complete and submit a progress report (**Annexure 8**) to the provincial Research Co-ordinator (Health.Research@westerncape.gov.za).

4. The reference number above should be quoted in all future correspondence.

Yours sincerely

DR M MOODLEY

DIRECTOR: HEALTH IMPACT ASSESSMENT

DATE: 29-04-2019

APPENDIX G: INSTITUTIONAL APPROVAL 2

Western Cape Government
Health

Health Impact Assessment
Health Research sub-directorate
Health.Research@westerncape.gov.za
tel: +27 21 483 0866: fax: +27 21 483 9895
5th Floor, Norton Rose House, 8 Riebeek Street, Cape Town, 8001
www.capegateway.gov.za)

REFERENCE: WC_201904_012
ENQUIRIES: Dr Sabela Petros

Stellenbosch University

Tyherberg Hospital

Parow

Cape Town

7305

For attention: Ms Sylvia Hlana, Dr Talitha Crowley

Re: **The experiences of women who have used the sub-dermal contraceptive implant (Implanon) and their reasons for the early removal in the Cape Metropole, Western Cape**

Thank you for submitting your proposal to undertake the above-mentioned study. We are pleased to inform you that the department has granted you approval for your research.

Please contact the following person to assist you with any further enquiries in accessing the following sites:

Du Noon CDC	**Mr Warren Caesar**	**021 200 4562**

Kindly ensure that the following are adhered to:

1. Arrangements can be made with managers, providing that normal activities at requested facilities are not interrupted.
2. By being granted access to provincial health facilities, you are expressing consent to provide the department with an electronic copy of the final feedback (**annexure 9**) within six months of completion of your project. This can be submitted to the provincial Research Co-ordinator (Health.Research@westerncape.gov.za).

3. In the event where the research project goes beyond the *estimated completion* date which was submitted, researchers are expected to complete and submit a progress report (**Annexure 8**) to the provincial Research Co-ordinator (Health.Research@westerncape.gov.za).

4. The reference number above should be quoted in all future correspondence.

Yours sincerely

DR M MOODLEY

DIRECTOR: HEALTH IMPACT ASSESSMENT

DATE: 15-05-2019

APPENDIX H: DECLARATION BY LANGUAGE EDITOR

Busy Bee EDITING

No. 2 Jonty's Village, George Miller Street, Margate, Kwa-Zulu Natal, South Africa
Cell: +27 72 244 4363
Email: info@busybeeediting.co.za
Website: www.busybeeediting.co.za

Proofreading and Editing Certificate

TO WHOM IT MAY CONCERN

This is to certify that we Brenda van Rensburg and Hugo Chandler the owners of the above company are both professional freelance proof readers and editors. For the past eleven years we have been providing proofreading, editing, layout, syntax, spelling and grammar checks as well as typing and graphic design services to university students and graduates for their theses, proposals, reports and dissertations, as well as to authors for their manuscripts. We will gladly provide any references if needs be.

We have completed the proofreading, editing, layout, syntax, as well as a spelling and grammar check on a 8 619 word / 32-page Proposal titled **THE EXPERIENCES OF WOMEN WHO HAVE USED THE SUB-DERMAL CONTRACEPTIVE IMPLANT (IMPLANON) AND THE REASONS THAT LED TO THE EARLY REMOVAL IN THE CAPE METROPOLE, WESTERN CAPE** for **SYLVIA HLANA, STUDENT NO.: 16919599,** a student at the **UNIVERSITY OF STELLENBOSCH.**

Brenda van Rensburg
Brenda van Rensburg

Hugo Chandler
Hugo Chandler

Date: 19 March 2019

APPENDIX I: DECLARATION BY TECHNICAL EDITOR

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Brantwood,
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7580
☎ +27 71 768 4141
rukshana@sun.ac.za

RUKSHANA ADAMS
COPYWRITING AND EDITING SERVICES

CERTIFICATE OF TECHICAL FORMATTING AND EDITING

This is to certify that the thesis titled
THE EXPERIENCES OF WOMEN WHO HAVE USED THE SUB-DERMAL CONTRACEPTIVE IMPLANT (IMPLANON) AND THEIR REASONS FOR THE EARLY REMOVAL IN THE CAPE METROPOLE, WESTERN CAPE

written by

SYLVIA N. HLANA

Was Reviewed for Technical Formatting and Editing by **RUKSHANA ADAMS**

Date: 5 Dec 2019
Signature: R. Adams